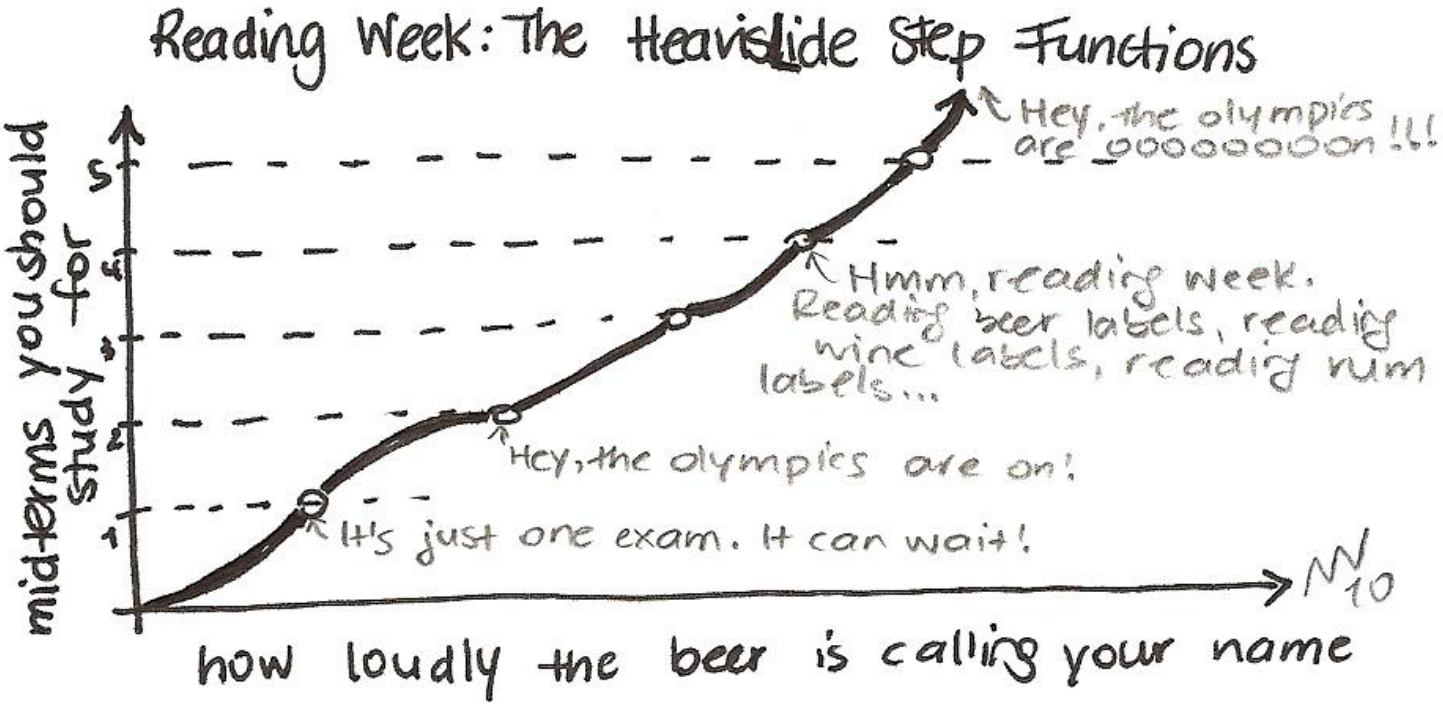
mathNEWS

Volume 112, Issue 4 *Friday, February 26th, 2010*



Reading Week:

"The best chance you had to get ahead on your ~~drinking~~ courses."

CC BY NC ND

9 770705 041004

*look*AHEAD

***math*NEWS**	
Febuary 26th	Issue #4 cried wolf.
March 8th	Issue #5 production night 6:30 MC 3038
March 12th	Issue #5 is probably just a red herring.

MathSoc	
March 2nd	Post-Midterm - The First Year's Gathering! 7pm MC Comfy
March 9th	Study Skills Seminar at 3:30-430pm MC 2017
Wednesdays	Games night at 7pm in MC 3001
Thursdays	Movie night at 7pm in MC 3001

Math Faculty	
Ongoing	Orientation Week applications

CECS	
Feb 26	Rankings are out!!!
March 1	Rankings close and continuous cycle begins

WatSFiC Dungeons and Dragons Tournament

After half a decade, the WatSFiC Dungeons and Dragons Tournament is returning. What is a Dungeons and Dragons tournament you ask? Dungeons and Dragons is a role-playing game, not a points game. This isn't Decent! BUT this is a role-playing tournament! Points are based on goals, and points are based on how well (and awesomely) you can portray a crazed dwarf charging down a hall, or a halfling sneaking through a castle pretending to be a guard.

All that is required is a team (or working as an individual, and split into teams if there's enough), although a basic knowledge of Dungeons and Dragons 3.5 (not totally needed, but someone who can talk combat over your shoulder, and brief you on what your spells do might be useful), and dice or books, are useful if you have them.

The tournament will be held on Saturday March 13th. For more information check out: `http://watsfic.uwaterloo.ca/tournament/`

WatSFiC

ISSN 0705—0410

*math*NEWS is normally a fortnightly publication funded by and responsible to the undergraduate math students of the University of Waterloo, as represented by the Mathematics Society of the University of Waterloo, hereafter referred to as MathSoc. *math*NEWS is editorially independent of MathSoc. Content is the responsibility of the *math*NEWS editors; however, any opinions expressed herein are those of the authors and not necessarily those of MathSoc or *math*NEWS. Current and back issues of *math*NEWS are available electronically via the World Wide Web at `http://www.mathnews.uwaterloo.ca/`. Send your correspondence to: *math*NEWS, MC3046, University of Waterloo, 200 University Ave. W., Waterloo, Ontario, Canada, N2L 3G1, or to userid `mathnews@student.math.uwaterloo.ca` on the Internet.

This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works 2.5 Canada License. To view a copy of this license, visit `http://creativecommons.org/licenses/by-nc-nd/2.5/ca/` or send a letter to Creative Commons, 559 Nathan Abbott Way, Stanford, California 94305, USA. Terms may be renegotiated by contacting the editor(s).

The editor(s): John Stevenson, John Baxter, Rami Finkelshtein

*mast*HEAD

Howdy concerned readers!

The best thing about having tech savvy friends is definitely listening to them talk with their not-so-savvy parents and siblings. I will admit to being not as well versed in the realm of computers as one who studies them should be, but I do find a certain sense of enjoyment watching the many above me try to explain simple things to the many below. For example: installing an anti-virus does not give you a carte-blanche for downloading everything readily available on the internet. Or, as my friend explained through a clever use of analogy, "Just because you got the swine flu vaccine doesn't mean you can go around licking doorknobs!"

But even besides comedy, having a diverse group of friends has several other benefits, such as the distribution of knowledge, or at least class notes. Instead of everyone feverishly trying to understand every aspect of every course, we take advantage of the fact that only a few of us really need to be listening at any given time, and those few can report what they have learned (if anything) to the others. Well, that's how it works in theory. In practice, there are only two types of classes: ones where we all listen and ones where none of us do.

On the subject of friends, viruses and classes, the ***mast*HEAD** **Question** is: Where is your happy place?

Answers: "At Jane Goodall's House of ill repute." (The Unnatural Historian), "Where you aren't..." (RamED), "the MC third floor" (Unja), "Settling down with a girl who has huge...tracts of land." (42), 'in her arms" (Code: e <<access denied>>), "why, &mn; of course" (Sector Corupt), "I know not where it is, merely where it is not." (perki), "the rotting carcus of a whale" (Segfault), "Doesn't matter, as long as it's BIGGER SHARPER AND HAS MORE KNIVES" (!Case), "Where there are no midters..." (Nadz)

ImplusED

"A virtual house of ill repute."

FYAdir Sez?

touch your toes

Hey First-Years! Your "trusty" neighbourhood First Years Affairs Director here. I hope your midterms have gone well thus far. Just wanted to inform you of a few things happening in the next two weeks for First-Years.

1. **Post-Midterm - The Gathering!** When? Tuesday March 2nd at 7pm. Where? MC Comfy Lounge. What? People! Popcorn! Snacks! Drinks! Games! Why? In true Waterloo spirit, why not?
2. **Study Skills Seminar**! Midterms are coming to an end, but exams are yet to come. Need help with studying? Time management? Or just want to learn some tricks for guaranteed success? Come out to the Study Skills Seminar March 9th in MC (room to be determined - more announcements and posters to come!). This is being run by UW Counselling Services in MC for your convenience and benefit. If it makes a difference - cookies will be provided.

If you have any questions about either event, email me at `fya@mathsoc.uwaterloo.ca` and/or talk to your First-Year Representatives.

FYA Director

Bryanne Pashley

Fully-Funded Travel and Academics

Waterloo-Haifa International Program

Heather Reisman, Founder and Chief Executive Officer of Indigo Books and Music Inc. (now Chapters Indigo), and Gerry Schwartz, Chair and Chief Executive Officer of Onex Corporation, have donated $500,000 to the University of Waterloo for undergraduate student education and travel.

All types of Mathematics, Computer Science or Software Engineering students are encouraged to apply for travel to the University of Haifa in Haifa, Israel. No knowledge of Hebrew necessary! The donors would like our Waterloo students to experience the culture and life of Israel and are willing to pay for travel, accommodation, food, tuition, cultural visits and all other expenses. Although the exchange is with the University of Haifa, students will be able to travel extensively within Israel (funded) and elsewhere.

Students may travel in groups, with friends, or whatever makes you comfortable. There are four options for travel so far:

1. A normal academic exchange taking Math and CS courses in Hebrew

2. A normal academic exchange taking elective courses in English

3. A four-month research work term in English

4. A four-week cultural exchange in August in English

If you can think of other options, we are willing to work with you.

We will be having a Haifa Information Session on Tuesday, March 9 at 4:00 pm in MC 5158. Of course, refreshments will be served! Please contact Anne Banks Pidduck, `apidduck@uwaterloo.ca` , for more information.

Changes Coming to Degree Requirements

New rules for students taking multiple plans

Students in the Faculty of Math will now be allowed to enroll in as many as three different academic plans, after new rules take effect in September.

"The new rules are designed to be much more flexible and allow many more combinations than the old rules did, and to be much clearer than the old rules were," said Dr. David McKinnon, Associate Dean for Undergraduate Studies. "There are parts of it that students can take advantage of earlier – consult your academic advisor for details."

The new rules divide plans into five categories: "stand-alone" BMath or BCS plans, Math Faculty Joint Honours, External Joint Honours (from other faculties), Math Faculty Minors/Options, and External Faculty Minors/Options.

The student will enroll in up to three plans, labeled Plan 10, Plan 20 and Plan 30, which will be listed on their diploma in that order. All students must enroll in a Plan 10, which will come from one of the first two categories. Students whose Plan 10 is a stand-alone program are not required to enroll in a Plan 20 or Plan 30, but may do so if they wish.

If students enroll in a Plan 10 that is a joint program, they will have to enroll in a Plan 20. BMath students must enroll in a Math Faculty Joint Honours plan, while BCS students can choose between a Math Faculty or External Joint Honours plan as their Plan 20.

Students should be advised that, due to the natures of the various plans, it may take more than the traditional 40 courses or 8 academic terms to complete multiple plans.

There are, of course, some restrictions to the possible plan combinations. Students taking a stand-alone BMath plan cannot combine it with any BCS plan, and plans in similar fields will also not count. Further details can be found in the 2010-2011 Undergraduate Calendar.

InsideR
Twitter: @mN_InsideR

Changes to Second-Year CS Courses

CS will soon change the ordering of its second-year courses for CS majors. Starting in Fall 2010, CS 241 and CS 246 will switch places; CS 246 will come first. Starting in Winter 2011, CS 240 will require CS 245 as a pre-requisite.

These changes will not affect students who pass CS 241 by this Spring term (2010) and who also pass either CS 240 or CS 245 by this Fall term (2010). Other CS students, including most who started in Fall 2009, should ensure that they get pre-enrolled for the proper Fall courses during pre-enrolment week (March 1 to 7).

Due to awkwardness in official timing, Quest will prohibit students from signing up for CS 246 unless they already have CS 241. We have therefore tried to identify all students who will need CS 246, and have entered them in in the course using a "back door". If you don't actually need the course, you can remove it. If we overlooked you, or if you remove the course and want it back, contact a CS advisor (in person, or email to cs-advisors@cs.uwaterloo.ca).

To get into CS 240 come Winter 2011, you will need to pass CS 245 first. We strongly recommend that you pre-enrol for CS 245 as soon as possible, even if you have to delay taking CS 251.

For more information on this change, and answers to some questions, see our web site, `http://www.cs.uwaterloo.ca/current`.

(This change remains subject to approval from UW's Senate Undergraduate Council. We anticipate that approval to occur at their March meeting.)

Jonathan Buss
Director of Undergraduate Studies
Cheriton School of Computer Science

News From Off Campus

Here is a selection of interesting news stories from the past two weeks. If you see anything that I may have missed, send me a tweet @mN_InsideR.

Privacy Experts Buzzing about Google's New Social Network

Gmail users will have noticed a new button in their email last week, as Google unveiled Buzz, its latest social networking tool. The site allows users to post status updates and share content with those they email most often, and will suggest users to follow based on who they email often.

However, privacy experts launched complaints with US regulators shortly after its February 9th launch, and Canadian privacy officials are also investigating the site. These came as users were automatically set up with a circle of friends, based on who they emailed most frequently. Additionally, these friends lists were made public by default, meaning that anyone could see who a given user was following.

Todd Jackson, Buzz's project manager, told BBC News that they "wanted to provide a great user experience straight out of the box." Privacy experts, though, say that doing this would cause problems, though, with reporters, businesses, or citizens in politically-oppressed regions.

Google has said that the service has undergone internal testing for months, but unlike most other apps, has not gone through their Trusted Tester program, which allows employees' friends and family confidential access to the service. The firm has apparently set up a "war room" at their Mountainview CA headquarters to make major decisions on Buzz in light of the backlash.

Google has since added greater security features, such as changing the auto-follow to auto-suggest, not automatically connecting with other accounts such as Picasa and Google Reader, and allowing users to disable Buzz entirely. These options were enabled on accounts from February 17th.

Tougher Rules for Potential Homeowners

The federal government announced new rules last week for people looking to use a government-backed mortgage to purchase a new home.

Finance Minister Jim Flaherty said that with the economy improving and interest rates set to rise, he wants to ensure that homeowners are not taking on too much debt and that the housing bubble that burst in North America in 2008 does not happen again.

"One must always guard against the temptation to take on more financial risk simply because interest rates are low," Flaherty said. "Our government is acting to help prevent Canadian households from getting overextended and acting to help prevent some lenders from facilitating it."

Homeowners will now have to qualify for a five-year, fixed rate mortgage, even if they plan to take out a mortgage with a lower interest rate or a shorter term. Additionally, the amount a homeowner can refinance has been lowered to 90% from 95%.

One of the biggest changes come to investment properties, such as rental units, where buyers will now have to make a 20% down payment, up from 5%. Down payments for residential properties will remain at 5%, and the maximum amortization (payment) period remains at 35 years.

The new rules take effect April 19th.

Several economists have commented that the measures announced are "prudent", but some wanted to see the mandatory down payment for residential homes increased to 10%.

A government-backed mortgage would allow banks and investors to recoup losses should the mortgage default. Banks are not forbidden from issuing mortgages that do not meet these qualifications, but they do so at their own risk.

Scottish Brewery Reclaims Strongest Beer Title

A brewery in Northeastern Scotland reclaimed the title for World's Strongest Beer last week with its latest brew, "Sink the Bismarck".

BrewDog's newest beer, which is presently only available online, has an alcohol content of 41%. This defeats a German brew developed earlier this month called "Schorschbock", which has 40%, and BrewDog's previous invention, "Tactical Nuclear Penguin", which once held the record at 32%.

By comparison, most beers have an alcohol content between 4% and 6%, and vodka has an alcohol content of around 40%.

"By pushing the boundaries in brewing we can highlight all that is exciting about craft beer and make more people aware that an alternative to mass market beers exist," BrewDog said on its website. "Beer has a terrible reputation in Britain, it's ignorant to assume that a beer can't be enjoyed responsibly like a nice dram [shot] or a glass of fine wine."

Alcohol Focus Scotland, a charity aiming to raise awareness of alcohol issues, is not amused by the "irresponsible brewing practice", and declined to comment because it would "only serve to add to their marketing."

"As a company, responsible consumption and better education about beer is ingrained in all we do," BrewDog noted. "A beer like Sink the Bismarck! should be enjoyed in spirit sized measures."

An 11-oz bottle of Sink the Bismarck (which is slightly smaller than a mickey) currently sells for £40 ($66).

InsideR

with files from BBC News, CTV News and The Register

Thor's CS Problem of the Fortnight

Sashaying around the dinner party that is Computer Science

Last Fortnight's Question: When we are scheduling tasks on a computer, we often have the concept of task dependencies. Specifically, it is often the case that task B will be unable to complete until task A completes, and task C is waiting on both tasks D and E. Given a listing of such tasks and their dependencies, how can you figure out what order to complete the tasks in?

Its Answer: This problem is the classical justification for a topological sort. A topological sort takes a directed, acyclic graph, and produces a linear ordering of the vertices. We can define task dependency as a directed edge. This will give us an ordering of tasks that satisfies all of our dependencies.

This Fortnight's Question: Suppose you are a manager of a company. You have a set of workers, each of whom is capable of doing some subset of the tasks that your company needs to complete. Your job is to assign each of the tasks to a different worker in such a way that your organization is working at maximum efficiency. How would you go about doing this?

Thor

A.S. a Don

Learning you can do whenever you want. But education always happens when you'd rather be asleep.

For some people, the Don is merely the mean person who comes knocking on your door, telling you and your friends to be quiet. But the rest of us truly appreciate our Dons — and would love them all that much more if they did that one little thing that your friend on another floor is really, really excited about.

Perhaps, maybe, you'll even follow in your Don's footsteps one day — being in charge of your own floor of twenty or fifty or seventy frosh, being a leader that they can look up to. If you are a Don some day, remember:

- **Talk *with* your floor, not *to* your floor.** Whether they're 17 or 21, they'll appreciate being treated as friends and colleagues.

- **Let your floor know your availablility.** This is as simple as leaving your door open when you're in; and writing "around REV" or "around campus" or "went home to Toronto" on a whiteboard on your door when you're out.

- **Have *Tea Time* every week.** (Tuesdays are preferred, although moving it to another day to fit the floor schedule is fine if you give enough notice.) Brewing a few pots of hot water in an electric kettle and letting your floor sit in on couches in your room while talking about the latest TV drama or the Olympics or midterm stresses will make morale that much higher. Besides, tea is inexpensive, and not many people will mind if you used the teabag for three pots instead of two.

- **Take the floor out to the movies.** Do it twice, just in case not everyone can afford the movie ticket the first time around. It's also a good idea if the two movies are of different genres. (So you might take them to a romantic comedy in October, and an action-adventure in January or something.)

- **Occasionally bake/cook treats for your floor.** People will get homesick, and want to remember the taste of cookies, brownies, mashed potatoes and even kraft dinner. You can add this as an incentive to get people to come to floor meetings. If you're really keen, you could hold floor meetings just for the sake of preparing and serving these dishes. If you get someone on the floor to help with cooking, they might learn a thing or two from you about working in the kitchen. You might learn something from them, too. (Broccoli florets go really well in KD — go ahead and buy a case of 12 boxes of the stuff, and maybe two or three heads of broccoli too.)

- **Go tobogganning with your floor.** Use cafeteria trays if you don't have enough toboggans. If the weather doesn't permit (i.e. it's spring term), then do some other fun activity outside.

- **Don't forget about school.** Your floor will miss you if you have to leave in the middle of term. A lot.

- **Listen to ideas from your floor. Then do something about it.** People love it when their ideas turn into reality. If you don't have enough time to do it yourself, get the floor involved — you'll probably find a few people who are willing to help. If it's not under your control, at least try to provide an explanation, or tell us where we can find one.

- **Nobody's perfect.** If you've put forth your best effort, and your floor know it, they'll appreciate everything you do. Even when you have to go knocking on doors and asking them to be quiet.

- **Read a picture book on your last day with the whole floor.** Yes, it's cheesy. But you've gotta remind them that university life isn't the end. Heck, it's not even the beginning of the end. Their last day in rez is, perhaps, the end of the beginning.

cbhllhbc

Midnight Capture the Flag

So we, The Management, have been getting a bit discouraged over the past months as time after time no one (or too few people) showed up to play capture the flag. We apologize if anyone showed up at the most recent unappointed time and we all have our own mediocre excuses if you would like to hear them. We recently got word of a note found on the *math*NEWS office door saying, "DEAR THE MANAGEMENT WE WANT TO CAP SOME FLAGS." So, by popular demand, there will not be a game of flag capping this coming Sunday night at midnight. That is, do not show up at the **MC Comfy Lounge** at **23:59** on **Sunday, February 28th**!

The Management

Super LEGO Car

How I spent the reading week.

Hi! So, I spent most of last week at home watching the Olympics and working on a LEGO project. This project started a couple years ago, when I decided I wanted to learn about transmissions by building one out of LEGO. Last summer, I got the idea to also try constructing a clutch and then try implanting it into a large TECHNIC truck. When I started working on this last summer, I eventually got to thinking that it would be neat to also implant a pair of remote controlled motor units that I have. The project was mostly put on hold over the fall, but I got back to working on it a bit over Christmas and realized that one motor would not be strong enough to move this monstrously heavy vehicle. The differential piece that I subsequently ordered over the internet for taking the power from two motors onto one drive shaft arrived on Family Day with work and excitement ensuing. Late Friday night I completed a LEGO vehicle that steers, drives, and changes between two gears all by remote control! MWAHAHAHA!!! I was really excited to show it off to friends and family all weekend.

CODE: e-loves-lego <<access granted>>

Pride for Sale!

[enter generic subheading here]

I love Canada. Don't get me wrong. But I must question the sudden increase in patriotism felt across this great land. As we all know, Canada is really big. It's the second largest country on this planet, Earth. This in itself is a reason to be proud to be Canadian. These days we are proud of more than just our largeness. We are proud to be the home of the 2010 Olympic games. And how does this pride manifest itself? Millions and millions in sales for HBC! There's really nothing wrong with this. Money for HBC, job security for Canadians, support for athletes. My question: where does this end?

American speed-skater Shani Davis commented that Americans have nothing on Canadian Olympic spirit. He's right. Spontaneously breaking out in *Oh Canada!* on the streets or during curling ends while decked out in HBC apparel, Canadians have gone wild for the games. Crowds are larger and louder than during past Olympic games and the hype surrounding Canadian athletes' chances at "owning the podium" is to be thanked. Or perhaps to be blamed. Though Canada has had an outstanding number of top 5 finishes thus far these games, our medal count remains rather low. Will this be our undoing? Shirts and scarves are nice, but are we truly proud of being Canadian, or are we caught up in the moment? After Sunday's closing ceremonies, how many of you, of us, will stand as proud as you did on February 12th? I will, I hope you do too.

temporarily proud owner of a CANADA toque and mittens

prime8

Elite Interviewing Skillz

Sometimes you find yourself having to interview for a position you really don't want. You could not show up to the interview, but this is poor form and somewhat rude. Alternatively, you could back out of the interview, but CECS makes you jump through all sorts of hoops in order to do this. Therefore, the ideal thing to do is to attend the interview, but make absolutely sure that you will not be hired. Below are some suggestions of how to achieve this outcome in the most amusing manner possible.

- Dress appropriately. Wear a dirty t-shirt and jeans, or if it is a particularly important interview, a bathrobe.

- Bring lunch. This gives an impression of just how busy your schedule already is, and shows you are dedicated enough to come in during your lunch break.

- Refer to yourself using the royal "we". This demonstrates just how important of a person you really are, and how lucky the interviewer is that you have graced them with your presence.

- Arrange for a friend to call you near the end of your interview. When you answer your phone, look startled, tell your interviewer that "Duty calls!", and rush out of the room heroically. Bonus points if you have a cape. (Or if your bathrobe billows behind you like a cape.)

—image

Pride for Sale?

wanted: single m
under 33
must have no inhibitions
must tell price if not free
sought by single m
mr. destiny
send photo to address
is it you and me?

prime18A

Pride for Sale!

This article has been found in violation of University of Waterloo Policy 33, and so has not been printed. We apologize for the inconvenience.

Pride for Sale!

Distinguished gentleman who wishes to remain anonymous has large quantity of lions, would like to exchange for cash. (905)-983-5016 if interested.

Pride for Sail!

Just a shout out to all those men and women serving in the Canadian Navy and the Canadian Coast Guard! We're proud to call such fine people our own!

Recycle for your lives!

Unlike many of the other writers, I was not participating in any midterms last production night, as I had much more important matters to deal with. Not that brainwashing innocent (mostly) *math*NEWS writers into voluntarily skipping production night to go be interrogated en masse isn't important, but there are more important things. Garbage being one of them.

Before you assume I'm going into some eco-friendly rant, let me assure you, this is even worse. Many people assume landfills will eventually cover the earth, wiping out humanity. While this may eventually happen, it would take so long that the planet would probably spontaneously combust due to global warming first. I think the real problem is that the landfills are simply large bunkers housing underground workshops and labs, and providing a ready supply of materials all at the same time. In these secret chambers, large teams of engineers are constructing a series of robots bent on world domination and made from bits of things you throw out. Before I was driven out by sentry bots made from pizza boxes (Campus Pizza, so it wasn't anything *math*NEWS threw out) and broken fast food toys, I learned that they were looking for a large pipe wrench. Don't let the engineers take their mascot off campus. I'd instead reccomend burying it deep inside the foundations of Math 3 and sealing it up.

We cannot let this takeover happen. You must stop throwing things out before you are crushed to death by giant hands made from broken coat hangars, plastic bags, and bits of your grandmother's old car. By recycling, we can bring the materials back into our own hands, and plan a counterstrike that will leave the engineers broken and defeated.

P.S. It's probably ok to ignore SE, they're usually just here to sit on the fence and enjoy the show.

(anoia,anoia)

The IT Confrontation

Sung to the tune of "Confrontation" from Les Miserables

This was "written" at 4 am by me and a friend in an IT program.

Jeff-ert:
Valjase, at last,
we see each other bored...
'Monsiuer IT guy'
you'll wear a different USB cord!

ValJase:
Before you say another wordi, Jeff-ert
Before you confuse me with your code again
Listen to me! there is something I must do.
This woman leaves behind a suffering tower.
there is none but me who can do the clean,
In mercy's name, three days are all I need.
Then I'll return, I pledge my word.
Then I'll return...

Jeff-ert:
You must think me mad!
I've traced your packets across the net
A man like you shall always hack...
a blackhat such as you.

ValJase:
[Counterpoint]
Believe of me what you will
There is a packet I'm sworn to sniff
You know nothing of my skills
All I did was steal some games
You know nothing of networking
You would sooner do some perl
But not before I see this network fixed
I am waring you Jeff-ert, I'm a stronger hacker by far!
There is power in me yet, your server will not run
I am warning you Jeff-ert
There is nothing I won't do
If I have to DoS your site
I'll do what must be done!

Jeff-ert:
[Counterpoint]
Coders like me can never change
Sysadmins like you can never change
No,
246.0.0.1
My duty's to the code - you have no
Admin Rights
Come with me 246.0.0.1
Now the Server has been secured
Jase ValJase is nothing now
Dare you talk to me of h4x
And the scripts you had to run
Every man is born a n00b
Every man must RTFM
You know nothing of Jeffert
I worked in network security
I did networking just like you
I know the IP stack too!

ValJase:
[to the server woman]
And this I swear to you tonight
Jeff-ert
[to ValJase]
There is no place for you to script..
ValJase:
Your server will stay within my care
Jeff-ert:
Wherever you may store your codes...
Jase:
And I will run it to the ground

Both: I swear to you, I will be there

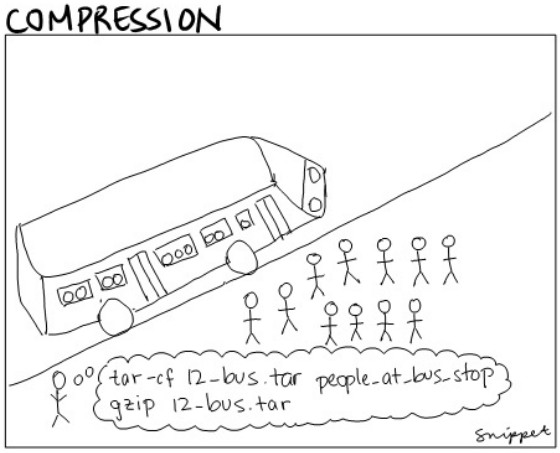
Sector Corrupt

Interesting Things to do with Forks

Some people are rather unimaginative when it comes to things like cutlery. Some cannot see the wonder in your everyday teaspoon, the tops red, the handles green, and add thorns for that extra special touch.

- Bring computers to a grinding halt by recursively forking child processes. Just sticking a fork into the motherboard usually does the trick too. Magnetize it for an extra kick.
- Most forks can be bent into rudimentary grappling hooks with a pair of pliers. You'll never have to wait for someone to pass you the salt and pepper again!
- Make yourself a crown and a set of shoulder spikes, begin refering to yourself in third person, and command the lowly peons around you to bow in your presence.
- Get a dart board, sharpen up some forks, and play fork darts with your friends. Goes great after a round of butter knife fencing, or some traybogganing.
- If all else fails, you could always use them to eat with.

!case



DRUGS DRUGS DRUGS

And why you should do them

Disclaimer: This in no way reflects the opinion of the author, the *math*NEWS staff, or anyone. If you follow this advice, you are an idiot.

Alcohol

Alcohol is great. It makes you amazing at everything, including singing, dancing, and driving. Drinking is best when done alone, when you are free to do whatever you like without annoying people trying to stop you. If people feel that you are an alcoholic, ignore them, and drink the rest of your 40. Alcohol also goes great in conjunction with other drugs.

Marijuana

Marijuana makes you high. You feel so awesome, like you could do anything you feel like. If you do a lot of weed, you will never be malnourished, and you will get plenty of sleep. The only bad side effect is you will develop an inexplicable love of weird music. Also very effective for those nights you really wish not to remember the next morning.

Magic Mushrooms

You will experience things you have never seen before. Like a hat melting off of a chair. Great for those moments you wish that reality wasn't really reality. And if you like seeing odd coloured animals during your exam. You will see cool things, and things can take on synaesthesic properties, allowing you to absorb things more readily. Hence, good for studying. Plus, they are non-toxic and non-addictive.

Cocaine

Cocaine is a helluva drug. Go out, and be high. Life never seemed so great. And when the world comes crashing down, get more cocaine. The little things such as eating and sleeping will no longer matter.

—!theNewGuy—

WhenElse

0 Years From Now in math*NEWS*

Sometimes we at *math*NEWS like to take a look at classic articles from other issues to get a feeling for where we've been and where we're going. The following article, for example, is from Volume 112, Issue 4, published February 26th, 2010.

WhenElse

0 Years From Now in math*NEWS*

Sometimes we at *math*NEWS like to take a look at classic articles from other issues to get a feeling for where we've been and where we're going. The following article, for example, is from Volume 112, Issue 4, published February 26th, 2010.

WhenElse

0 Years From Now in math*NEWS*

Sometimes we at *math*NEWS like to take a look at classic articles from other issues to get a feeling for where we've been and where we're going. The following article, for example, is from Volume 112, Issue 4, published February 26th, 2010.

—image

Interview Pre-Mortem

Apparently I'm the lucky one

I'm in 4B CS Co-op. I'm about tho graduate. I've had my composite photos taken. My Intent to Graduate form currently sits cosily in my bag. And I've done a multitude of interviews.

They aren't done yet though. Unlike with co-op jobs, there isn't a nice isolated time when I can do interviews, get rankings and the make a decision. It's not quite like the dreaded continuous phase. It's kind of a melding of the two, but better.

With actual, real, fulltime jobs, you apply to jobs, and then wait for the employers to contact you. Here at UW, you have the option of finding a few jobs through Jobmine, which I took advantage of. The difference is they have to contact you outside of Jobmine, so there's less paranoid OCD interview checking. The biggest difference with fulltime jobs, though, is that you get details of whatever offers you have before you need to make decisions on them. After all, you're picking how your career goes for the time after UW. Big decisions.

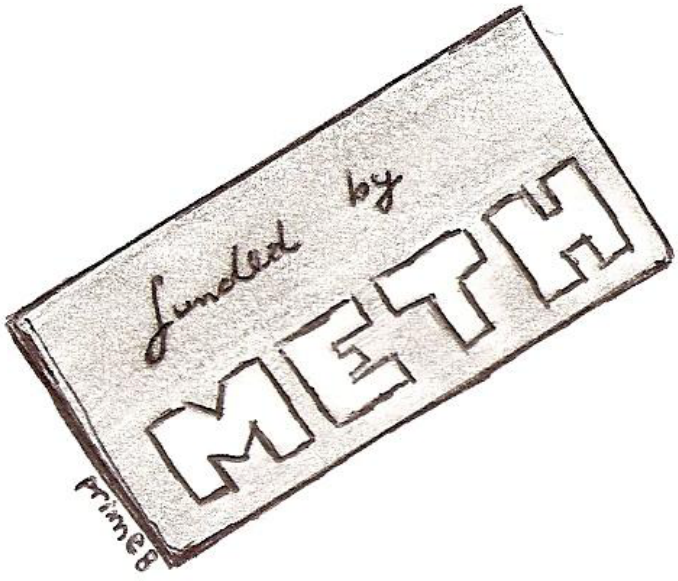
I applied to five companies for this endeavour. I was hopeful, but didn't expect anything. I've applied to these guys before and nary a word.

Here's the interesting part. They've all contacted me. What the heck is with that? How is it that I'm suddenly worthy of their attention? Very little has changed between my last co-op term and now, other that I'm looking to make a bigger time commitment (in exchange for a fulltime salary, and *gasp* benefits, of course.)

I understand the reason, of course. I'm not one of the absolute cream of the crop, though I'm demonstrably capable and competent in my own right. Not good enough to intern, but good enough to sign my soul away for (quite) a few quid a year. I wasn't worthy of *their* attention to be mentored and improved upon, but someone else could have me to do the same.

While the above is interesting and all, the fact remains that a few of these companies are going to moderate expense next week to fly me to far-off places, put me into a nice hotel, and do their best to convince me to work for them while ensuring I am indeed up to snuff. I'm still not sure if the tables have turned, but hopefully it'll be fine.

42



studentQUOTES

As per request

So am I allowed to assume that the range of an onto function has the same dimension as its solution space?

This was me.

If the whole world is an illusion, then why are we talking about this?

The guy in the middle in Philosophy

Couldn't we just do this with an association list?

That guy who doesn't understand runtime

Canada is playing at the same time as my midterm, can I write at a different time?

Someone who likes Hockey too much

When do we get to talk about sex?

Someone who thought he was in SMF

How can I get my girlfriend to be a nymphomaniac?

Someone who actually was in SMF

Am I allowed to use calculator on this exam?

A guy about to take the ELPE

Which event stores the departure time?

Someone who can't read the list of events

I forget to press the "submit" button when submitting assignments.

He will remain nameless

Would being high make this class more interesting?

Psychology, when talking about drugs

I'm sorry, I couldn't study, I was playing with a grappling hook made of forks and clothesline and pulling stuff out of the river.

The guy who pulls shopping carts out of the river

Well, you see, I'm small, so I can fit in small places and be quite comfortable.

A well rounded individual

[Prof:] Isn't this the most interesting thing you've ever seen?
[Angelo:] Not really. Some of us have had sex.

Angenonymous

[Prof:] You should read Section 3.7.1 to do this question.
[Student:] Um... which sentence?

That guy in the 2nd row

Have your students said something stupidly quotable? Type it up and send it to mathnews@student.math.uwaterloo.ca, or write it down and drop it in the BLACK BOX (located on the MC 3rd floor, between the Comfy and the C&D).

Game Review!

But not the type of games you expect

You know what's awesome? When people don't see their friends that much anymore. Or at least not when they are sober enough to see anything. I have come up the perfect way of enjoying myself and getting to hang out with friends! It's called boardgames. It's a semi-intelligent way of hanging out with friends (you can even drink, trust me). Now I'm not talking about those silly games like Monopoly or Clue (no offense to those games....who am I kidding? Full offence to those games) I'm talking about the new fun and great boardgames that are coming out. But fear not, I am here to at least review some nice games for you to try out. Take them at face value. Also sorry for the crappy review style, and bear with me as I figure this out.

This week I will be reviewing one of my favorite games right now. **Last Night on Earth: The Zombie Game** by Flying Frog Productions. This gem comes to us from Jason Hill, and this is the first game produced by his little company FFG. It came out in 2007.

The game itself is best described as a dramatization of a B-movie zombie horror flick. You have all the necessary elements needed for good movie fun: a bunch of characters that range from The Sheriff, the High School Jock, the Priest, or the randomly sluttly looking Nurse (all with names and relevant abilties); thematic scenarios like Get to the Truck, Defend the Manor House, and the aptly named Die Zombies Die; and last but not least, you have the great, powerful, slow, hungry, ZOMBIES!

One, or two, player will get to play the zombies while up to four other players will be attempting to survive through the night (or day, the game isn't too clear about the time.) The game revolves around the heroes trying to complete the mission, while the zombie player(s) will try to win by either making the heroes fail to complete their mission, or just killing the heroes (because really, what problems can't be solved by killing heroes?)

This game both looks and plays in a very interesting way. First I should mention the look. All the cards for events/weapons and zombie items, as well as the characters, are not actually computer graphics or drawn, they are done with photography. The pictures aren't that bad, some border on ridiculous, but they really fit the theme of the game. As for the way the game plays, it is what makes this one of my favorite games. It mixes a good deal of skill as well as luck (dice rolling) for a very gratifying gaming experience. While the luck does play a great part in the game, a good strategy will turn the game around for you.

But all is not sunshine and happiness in the world of zombies. Firstly, the rules are relatively simple, but do take a little while to grasp fully, so you might be looking through the rules in your first couple of plays. Also, after many plays with the same people, you may feel the game is being a bit repetitive. This problem can be fixed by purchasing one of the expansions (and I list this as a con since this raises the RriceRoint.)

So should you buy this game? Hell yeah! Should you find me and play it (I suggest trying games night on Wednesdays at 6:30 in the comfy lounge)? Hell yeah! Will you enjoy it? Probably! Well, I end this review with a numeric score of 8/10 and highly recommend it for the average gamer.

Now come out to games night!!
The boardgamer

Olympiscopes

Because I don't have enough hate to write Horrorscopes

Accounting: Your attention to pennies comes to mind the hundredths of seconds in a short track speed skating race.

Your lucky medal is: The one that looks and feels like a loonie.

ActSci: Your sport is luge, because although only one person has died doing luge, think of all the people who die in NASCAR, football and even cheerleading.

Your lucky medal is: The blood diamond medal for taking advantage of people.

AHS: I suggest they bring back winter pentathalon, except mixing short track speed skating with figure skating and downhill skiing, to make some epic falls. I'm picturing a midair salchow takeout. Any case, AHS would be good enough at any of these events.

Your lucky medal is: The beating heart of the vanquished.

Applied Math: Biathalon, because you do something impractical (cross country skiing, when you could use a snowmobile), but use it for something practical (shooting stuff).

Your lucky medal is: The magnetic medal that lets you take the other medals as well.

Arts: Because we can sort of see the reasoning behind your marks, but there is still a lot of vague hand waving behind the quantities, you can relate to the snowboarding half-pipe. Just make sure you do the triple-mctwist-quadruple-720-to-armadillo, and you'll be sure to get full marks.

Your lucky medal is: You don't get one! Why? Because you are in arts!

BBA/Business: You only play ice hockey, because its the only sport in the Winter Olympics that has a chance of making lots of money.

Your lucky medal is: Diamond, you sellout, you.

CM: Your precision in mathematical modelling rivals that of an olympic snowboarder. Snowboard cross multiplying is important to the olympic mathematician.

Your lucky medal is: The identity medal.

C&O: Your sport is aerials, because only you could come up with all the possible combinations of leg contortions, spins, and sticking your pole up(Yeah, because we don't know where that came from).

Your lucky medal is: The mosaic medal.

CS: Your sport is speed skating, because, like them, you will keep going in a loop until you hit a break.

Your lucky medal is: The window medal, so you can see some daylight.

E: Cross country skiing, because only you would stick wood on your feet and wander through the woods in the freezing cold.

Your lucky medal is: The wooden medal, because someone has to get it.

Engineering: With the amount of guards put in place, and sacrificing some points for others, curling is definitely the Engineering game.

Your lucky medal is: The iron medal, but you have to spend another 5 years of your life to get it.

MathSci: A combination of impracticality with banality, you are a best bet for Nordic Combined(Ski jumping and Cross-country skiing).

Your lucky medal is: The Carbon-14 medal for its half-lives, along with having a number in its representation.

OR: Your sport is ice resurfacing(if you want your brand mentioned, you'll have to pay me), with tools and a team of professionals (actually, I have no idea what you people do, but what other operations are there?).

Your lucky medal is: The *math*NEWS What do you do medal. Please tell us what you do in the BLACK BOX before the next printing, or you won't get a horrorscope.

PMath: Like an alpine skier, you make your proofs on the verge of consciousness. Unfortunately, your proofs can wipe out much harder than a skier, and can even contradict themselves (skiers don't wipe out uphill).

Your lucky medal is: The imaginary medal. It was inside you all along!

Science: Your sport is ski jumping. Where else can you use your knowledge of wind patterns, kinetic physics problems, and the human body?

Your lucky medal is: The Stone Medal, because with your alchemy, you can turn stone into gold, right?

Software: Your sport is bobsled, because your marks are on a downhill, but you have a team of friends from engineering and math!

Your lucky medal is: The Bisexual Medal, for going both ways.

Stats: Your sport is skeleton, for the same reasons as Software, but you have no friends.

Your lucky medal is: The Quantum Medal, for only showing up randomly.

Undeclared: You get to participate in the paralympic games, because you're definitely missing something.

Your lucky medal is: A major. Hopefully you win soon.

Tbor

Unnatural History

Monkeys

Little is known about those enigmatic simians. Oh sure, you can read the "lies" that Jane Goodall "recorded" with the "chimps" in "Africa", but I have "reliable" "sources" that firmly place her in a dive bar in Vegas, doing lines off the the naked backs of out of work Chippendales. Those were the good days....

What lies below is the sordid truth of our those feces flinging "cousins" of the animal kingdom.

We've long been told via the theory of evolution that monkeys are part of our genetic forebear, but this is far from the case. In fact, it's quite the opposite. Many tens of thousands of people just disappear from their former lives , every year.

Coincidence? I think not!

I posit that those people have made their way across the genome, and became the monkeys we see. They've embraced their primitive ways, and the sublime simplicity of jungle life. Koko the Gorilla could communicate with people. That's because she used to be a linebacker for the WPFL.

The facts are obvious. How else do the events of the "film" Planet of the Apes come about? The majority of the humans succumb to their simian urges, and the rest become enslaved by them due to sheer numbers.

Food for thought eh?

The Unnatural Historian
who is off to Vegas for no particular reason

Ritalin: The Silent killer?

Ritalin (Methylphenidate) is a drug administered by controlling parents to little kids in order to get them to hooked on a "safe" drug before they can get hooked on "bad" drugs, or so I've heard... And being one of these "safe" kids till a few years ago, I have been wondering if any of the adverse side effects of said drug are still lingering. So, BEHOLD! a list of possible side effects caused by the devil's advocate: Ritalin.

- Death: ... So far so good... but ultimately inevitable... Ritalin = Eventually Death
- Difficulty Sleeping: does 5:00AM count?
- Loss of appetite: What's an appetite?
- Irritability: Don't touch me.
- Scalp hair loss: NOOOOOOOOOOOOOOOOOOOOO!!!!
- Abnormal liver function: danger... DANGER!
- Hearing voices: Wait, wait... you mean grandpa isn't talking to me...
- Visual hallucinations: The pink buffalo agrees with me that this is probably not supposed to be in the list
- Blurry vision: "Might" explain the pink buffalo
- Urges to harm oneself: OMG! yes... procrastination
- Severe anxiety: due to procrastination
- Euphoria: From finishing a project at the last minute and handing it in ON TIME!
- Grandiosity: the feeling after euphoria... **UNLIMITED POWER!!!!!!**
- Confusion: the feeling you get after you get the project back... but it was perfect... NOOOOOOOOOOOOOOOOOOOOOOOO!!!!

Segfault

Alternative Definitions

Little known math terms

- Calculust: A driving passion for derivatives and integrals of all sorts.
- Algaebra: Undergarments for female algae.
- Probabbleity: The extent to which one uses nonsense terms to appear professional to others.
- AlGoreRythms: Percussion performed by anyone who preaches the dangers of global warming.

!case

Why You Should Care About Scheme

Part Two: A Quick Historical Detour

The history of programming can probably be viewed as a history of trying to convince each era's software engineers to adopt new, more expressive programming paradigms (with the particular paradigms in question tending to be determined by who has the best marketing at any given time). Of course, it is probably more accurate to characterize this process as one of dragging the programmers kicking and screaming into a new paradigm, possibly with the assistance of coercion, threats, intimidation, trickery, or bribery. Eventually, progress prevails. Somehow, C++ convinces a generation of C programmers to give object-oriented programming a try (as hard as it is to believe today that C++ could ever have been the "cool new thing"). In the 1990s, we saw Java somehow convince application programmers employ garbage collection for the first time - something that probably would have sounded like a daunting goal to anyone working in 1991. Java is an excellent example of a "software engineering" language today. Naturally, the factors that allow such a language to become successful have essentially nothing to do with its expressive power or elegance and have everything to do with business considerations like network effects, corporate support, and a bunch of good PR work.

I'm not going to spend any time in this article series bashing C++ or Java for precisely the same reason - they really are the best choices for all sorts of engineering problems for reasons orthogonal to their technical merit, and they're probably really important languages to know for reasons that have to do with earning money and spending it on important things like computers, iPads, O'Reilly books, and food, in roughly that order of importance. Instead, I'm going to try and get you to extrapolate the near future, where functional programming will be an increasingly big deal. This argument is getting a lot easier to make these days, since it's mostly coming true around us right now. Secondly, I'm going to try and demonstrate why it *should* be a big deal, and why it's a really good thing to learn, even if you can't actually get a job writing Scheme code, because knowing functional programming will also make you a better programmer, and most of the better software companies out there (the ones that you really want to work for) know it. This is also a pretty old argument, so it turns out that you're not actually getting anything new here. In fact, you should probably just stop reading this series and go find someone much smarter than me who's making the same arguments, as I have to assume that she is probably going to be (by virtue of her greater intelligence) far more convincing that I could manage to be. I do credit reading this series with being more convenient than that alternative, though... so maybe just stick around.

To Be Continued...

Thor

Avoiding Distractions During *math*NEWS Production Nights

I need some tips on how to avoid being distracted during production night, so that I can write better articles. Who's got some tips?

!able

profQUOTES

A binary relation R on a set S is a relation that relates two elements of S.

Haxell MATH 135

You would hope that = is an equivalence relation, otherwise one of them has a bad name.

Haxell MATH 135

Now that you've seen Fermat's Little Theorem, you may be wondering about Fermat's Big Theorem.

Haxell MATH 135

Prof: How do we find the solution?
Student: Magic.
Prof: There may be magic involved, but if you wanted to guarantee all solutions and full marks on, say, an exam…

Haxell MATH 135

When does "a" have a multiplicative inverse? Let's look at the linear Diophantine equation… which is gone because I erased it.

Haxell MATH 135

You must be sure that your math faculty-approved calculators have a huge little pink tie sticker on them.

Haxell MATH 135

How do we prove this? We use the lemma we proved earlier, and the lemma we didn't prove.

Haxell MATH 135

You only need to make one little mistake to derive a conclusion that is spectacularly false.

Haxell MATH 135

So the mathematician in you - if you have one, and you should let him out occasionally to get some exercise...

Godfrey CS 137

There's a famous quote by Hobbes... um, it's so famous that I've forgotten it.

Godfrey CS 137

If you work at Microsoft, you'll have to code in the Microsoft way, otherwise they'll nail you to a wall.

Godfrey CS 137

I'm glad half of you guys came on time, you can have a little gold star in your mind.

Godfrey CS 137

The rest of the class will begin to trickle in and make noise, and I'm not sure how to prevent that, short of bolting the door.

Godfrey CS 137

"Define" is a bit of a cheat, if you're wearing your functional programming hat, and I hope you have one.

Godfrey CS 137

My friend has a functional programming hat - you can tell it's a functional programming hat because there's a lambda on it.

Godfrey CS 137

Be careful how you spell "lambda." There's a silent "b." Silence of the Lambdas? I stayed up all night working on that joke, and it didn't turn out too well.

Godfrey CS 137

Early in their development, t's have tails, and they fall off when they grow older.

Godfrey CS 137

…and then the world is your oyster… assuming you like oysters.

Godfrey CS 137

This is a function that will operate on the structure pt. It's type-safe, so the first thing it does is to go "Hey! Are you one of those 'pt' things I've heard so much about?"

Godfrey CS 137

The other is strong-typing, when the system spanks you as fast as it can if you make a mistake.

Godfrey CS 137

Prof: So we're going to look at some abstract data types, and then we'll be done with Scheme.
Student: Yay!

Godfrey CS 137

(on the board) Function composition using Higher Order Functions is a fundamental technique in functional programmmmmmmming.

Godfrey CS 137

Does anyone not know what a Pez dispenser is because you… grew up on Mars?

Godfrey CS 137

If you want to put something in front of a list, what's the magic word? Don't say "please."

Godfrey CS 137

There's a place in Scotland called "Firth of Forth," which is lexically similar to (first (first ...)), but not semantically similar.

Godfrey CS 137

Somebody suggested a different implementation, which I liked, because I also thought of that one.

Godfrey CS 137

If I was being clever - which I am on weekends and occasionally Thursdays.

Godfrey CS 137

So it is now 2010 and you purchase a new machine. In 2012, before the world collapses, you decide to check your balance.

Koo MSCI 261

Don't worry, this is legally obtainable information. You can search for it.

Koo MSCI 261

OK, let's blow your minds and then you'll drop out of engineering and switch into arts.

Roh MATH 119

profQUOTES

You can say it's wrong and get zero or say it's right and get perfect.

Roh MATH 119

We're not going to get into the details because this is an engineering class. If this were a math class… you don't want to know what they do.

Roh MATH 119

Math still works.

Roh MATH 119

Why do you guys keep making this difficult?

Roh MATH 119

I keep screaming at high school teachers to teach the binomial expansion so students won't fail engineering.

Roh MATH 119

What, you want a positive number smaller than 0?

Roh MATH 119

Binomial theorem. That's going to haunt you for the rest of your lives. When you die, you'll be screaming "Binomial theorem!"

Roh MATH 119

Maybe O(x ^ 4) is hiding a dirty little secret from you.

Roh MATH 119

This isn't environmental science. We don't care about trees, so don't cram your entire assignment onto a single page.

Roh MATH 119

How many people like drawing? Um, how many people like drawing well?

Roh MATH 119

Prof: f(x,y) = x ^ 2 - y ^ 2 - 4y - 3. What is that?
Student 1: A plane.
Prof: A plane?
Student 2: No, it's a bird!

Roh MATH 119

Prof: Let's try to draw this function.
Student 1: We just put it into Wolfram|Alpha. Good luck drawing it.
Student 2: It looks like a Pringle chip.

Roh MATH 119

Let's do another, example and then I can make your heads explode next day.

Roh MATH 119

If you think this is garbage, you'll probably get a garbage mark on the exam.

Roh MATH 119

Obviously I wouldn't be talking about this unless there was a horrible, horrible reason that would make you cry.

Roh MATH 119

Are taller people more productive? If you're taller, don't answer.

Fatima ECON 102

[changes the slide, which is a picture of holy women surrounding Mary and Christ] I'm not trying to convert you.

Filion PLAN 100

Look at how narrow the streets are? They would try to cram as many people as possible in the area. A bit like student housing in Waterloo, but in the 19th century.

Filion PLAN 100

Ah! Lists! Now I get to introduce you to the most powerful, venerable, sexiest concept in all of computer science.

Kaplan CS 135

I had all sorts of plans for the Thanksgiving weekend: eat turkey, catch up on work, prepare my lectures, and then I discovered [Google] street view.

Filion PLAN 100

People like to have a drink every once in a while, so when you do not allow alcohol, there is more of an incentive to drink. Just like when you're underage, there is more of an incentive to drink. …Oh, that's recording.

Filion PLAN 100

[us in International Development] We're interested in equality. We're interested in social justice. We're interested in... Is there anything else we're interested in? ...Oh yes, environmental sustainability. We're interested in that too."

Swatuk INDEV 100

I don't see cats anywhere in this tree. I mean, you have cats, that split off into regular cats, and LOLcats…

Kaplan CS 135

[After wiping out half the course slides on LaTeX.] Not all is lost. Just most.

Kaplan CS 135

With great power, as they say … come pancakes.

Kaplan CS 135

Lots of spare seats. Come on, make some new friends. If there are no more seats, double up. If you have cooties, stand at the back please.

Seasons ENVS 195

Their government has left them [Haiti's poorest classes]. Maybe this can be your assignment for the next few days: find the Haitian government. It's like Where's Waldo?

Swatuk INDEV 200

So, we've got a hash table of girlfriends, and we're inserting a lot of sailors into these girlfriends. Each girlfriend has a lot of sailors that map to her, and when a new sailor comes, she kicks the other one out the back door.

Roche CS 240

GRIDWORLD

*grid*COMMENTS

Because obscure colours are the best ones!

For the first time this term, there were multiple submissions to the grid, presumably because people got bored over reading week. The correct solution to the grid with the best answer to the *grid*QUESTION was submitted by Mozes Magyar who was unable to attend production night because he was too busy fighting and committing crime. You can intimidate the workers in the MathSoc office with your brawn and villainy to collect your prize.

This week's grid may have more black squares than last week's, however the rest of it is much more colourful. Have fun and be sure to drop your solution off in the BLACK BOX for a chance at the fabulous prize. Remember to include both your name and answer to the *grid*QUESTION: "What's your favorite colour?"

perki

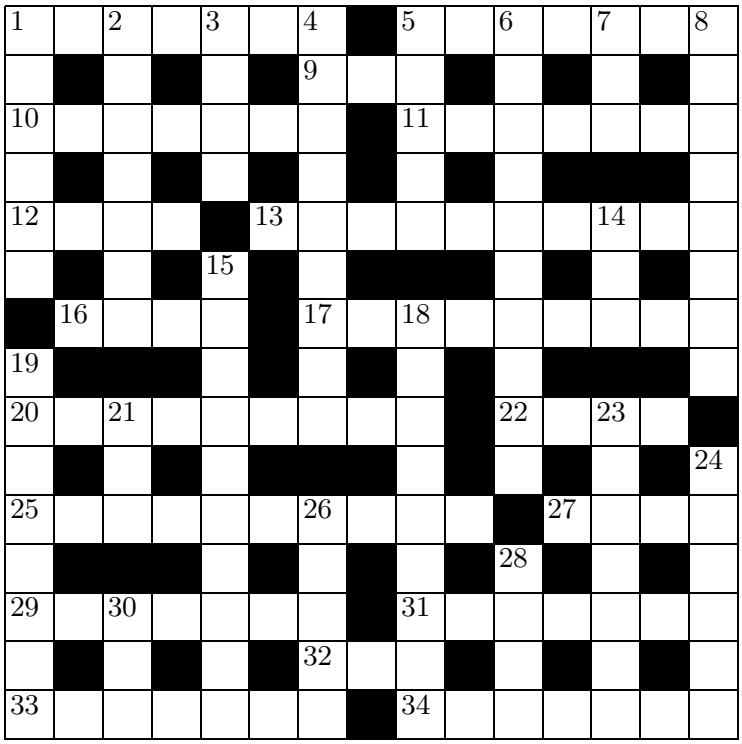
Grid Clues

Across

1. Gray or and igneous rock
5. Pinkish-purple or flowering plant
9. Northern Ontario city nickname
10. Non-clergy groups
11. Outflow
12. Dark teal or Great Lake
13. Parasitic wasp family
16. Myriad
17. Examined
20. Entanglement
22. Brown or male deer
25. Yellowish-brown (2)
27. Light greyish-yellowish brown
29. Reddish-brown
31. Town in Apulia
32. Deus Ex faction
33. Orangy-brown or a fruit
34. Brownish-yellow

Down

1. Yellowish-brown or advantageous
2. Precurser chemical to the first synthetic dye
3. Blue-violet or eye part
4. Indispensable
5. Rosey-crimson or lunacy
6. Light yellowish-green or a liqueur
7. Often before blue or green
8. Deep purple or and Australian city
14. Period or decimal point
15. Lover of fire
18. Deep rich spring green
19. Pale violet or climbing vine
21. Obstruct
23. Opera by Saint-Saëns
24. Reddish-brown
26. Signified
28. Asian inland sea
30. Rough, prickly seed case



Solutions: Issue 3

A	P	S	E	■	S	A	C	R	O	S	A	N	C	T
R	■	T	■	W	■	L	■	E	■	O	■	O	■	E
T	R	A	V	A	I	L	■	I	L	L	U	M	E	D
I	■	R	■	S	■	E	■	N	■	S	■	A	■	I
S	A	B	O	T	A	G	E	■	S	T	U	D	I	O
A	■	O	■	E	■	R	■	I	■	I	■	■	■	U
N	E	A	P	■	P	E	R	N	I	C	I	O	U	S
■	■	R	■	S	■	T	■	O	■	E	■	U	■	■
J	U	D	I	C	A	T	U	R	E	■	O	B	O	E
E	■	■	■	A	■	O	■	D	■	F	■	L	■	U
A	L	B	I	N	O	■	L	I	B	A	T	I	O	N
L	■	R	■	D	■	Y	■	N	■	R	■	E	■	U
O	C	A	R	I	N	A	■	A	S	C	E	T	I	C
U	■	W	■	U	■	R	■	T	■	E	■	T	■	H
S	A	L	A	M	A	N	D	E	R	■	L	E	N	S