

math

NEWS

Volume 97, Issue 1

Friday, January 21st, 2004



lookAHEAD**mathNEWS**

| | |
|------------|---|
| January 21 | Issue #1 hits the hallways |
| January 31 | Issue #2 Production Night 6:30 PM, MathSoc (MC 3038) |
| February 4 | Issue #2 heads out into the cold |

Math Faculty

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|------------|---------------------------------|
| January 21 | Fall Standings are up on QUEST |
| January 24 | Drop, No Penalty period ends |
| January 31 | Final date for fee arrangements |

MathSoc

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| January 21 | Council meets at 5:00pm, MC4041 |
| Thursdays | Movie Night, 7:00pm, MC2066 Two movies, two dollars |

MGC

| | |
|------------|---------------------------------|
| Wednesdays | Pizza, 3 rd floor MC |
|------------|---------------------------------|

Co-op

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|------------|-------------------------------|
| January 24 | Postings available at 6:00 am |
| January 26 | Postings available at 6:00 am |
| January 31 | Interviews begin |

Misc

| | |
|------------|--|
| January 26 | Scunt disOrg takes over the Comfy |
| January 28 | Let the scavenging begin! |
| January 30 | There are no world holidays on Jan. 30. Celebrate anyway! |

It came from the BLACK BOX

So yeah, people say that I tell far too many puns. I was in geometry the other day and I overheard this girl say that the circumference of a circle is pi times r, but I don't think she's been around. I didn't want to take sides, but the girl was acute and had some nice curves. When our paths crossed, I found her conversations were to the point. She's no square, but she certainly had all the right angles.

So this one time I ended up going out drinking with some of my friends from Statistics. There was this x bar and it turned out to be about average. but I suppose that's expected. It ended up that we sampled the crowd at sigma square, but it was filled with deviants. We integrated into the party and found the distribution wasn't so bad.

Fox

Student: "Are there digital versions of the course notes?"

Prof: "No, just analog versions."

Vasiga, CS 241

ISSN 0705—0410

mathNEWS 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. *mathNEWS* is editorially independent of MathSoc. Content is the responsibility of the *mathNEWS* editors; however, any opinions expressed herein are those of the authors and not necessarily those of MathSoc or *mathNEWS*. Current and back issues of *mathNEWS* are available electronically via the World Wide Web at <http://www.mathnews.uwaterloo.ca/>. Send your correspondence to: *mathNEWS*, MC3041, University of Waterloo, 200 University Ave. W., Waterloo, Ontario, Canada, N2L 3G1, or to userid@mathnews@student.math.uwaterloo.ca on the Internet.

The editor(s): Mark Toivanen, Emerald Kushnier, Chris MacGregor

ATTENTION 2005 GRADS!*MGC Does Stuff!*

So, I'm sure you've all heard this by now since you all attended the Information Session on Thursday (yes, I'm writing before Thursday, but you're also reading after Thursday.. unfortunately). But I'm going to reiterate all the important information here anyways!

Things you can help with:

- Sell Grad Ball tickets/Yearbooks/Grad rings
- Serve pizza every Wednesday (between 11am-1pm)
- Pink Tie Pledge
- Other Yearbook stuff
- Packing Grad gifts (for Grad Ball)

Nominations you can hand in:

- Nominate other graduating students (or yourself) for the Alan George Award selection committee
- Nominate other graduating students (or yourself) for the Alan George Award (soon)
- Nominate other graduating students (or yourself) for the Valedictorian selection committee (soon)
- Nominate other graduating students (or yourself) for Valedictorian (soon)

Things you should do:

- Fill in your intention to graduate form!!!! seriously. or else.
- Pledge to give money with the Pink Tie Pledge (take the Dean's Challenge!)
- Buy pizza from us on Wednesdays between 11am-1pm
- Donate money to the MGC! (it was worth a shot..)
- Buy a Yearbook/Grad ring/Grad Ball ticket!
- Volunteer to help out!

Okay, I'm sure I've missed something. But you should do all the things that I've listed in hopes that I've covered everything!

Your Friendly Neighbourhood MGC Chair
Ian MacDonald

MGC Award Nominations

Nominations now open! Calling all students who are entering their final year of study this year and graduating next year! Be nominated for this award of \$500 for academic and extra-curricular excellence! Details are provided on the form! Simply search for MGC award on [uwaterloo.ca](http://www.uwaterloo.ca)'s Google search, or follow this link:

[http://www.adm.uwaterloo.ca/infoawards/forms/MGC award app.pdf](http://www.adm.uwaterloo.ca/infoawards/forms/MGC%20award%20app.pdf)

Your Friendly Neighbourhood MGC Chair
Ian MacDonald

"These assignments are due 6:00PM Fridays... that's 1800 hours in case Bush invades and we have to go to military school."

Vasiga, CS 241

"What are they going to fire me for? Bad dressing? Ok, well... that's possible."

Semple, BIOL 265

Prez Sez

It's Almost Like a Revolving Door

Hello fellow Mathies! I'm Raymond, and I am your Math Society President. Well, at least until you finish reading this article, because most likely I will be deposed by then. Please let me explain.

No, a military junta is not plotting against my benevolent rule. Rather, it is a strange line of succession that has brought me into service at the Society. Because the presidential position is being contested between three candidates, the Society president position falls to the Spring term president, who just happened to be me.

At the end of today, a new and fresher President will be ratified to serve you, and I will return to my humble position as MGC chair.

The fact that I am an off-stream president doesn't mean the operations of the Society ground to a halt. In fact, the Society's day-to-day operations were unaffected, which is fantastic because the focus of its operations is you, the student.

Amongst the key change forms and office scheduling, there are few items of significance that should be noted:

- Our first movie night was dedicated to the FEDS Tsunami relief fund, and the night's entire takings will be donated to the fund. Thanks to all of you who came out to enjoy a movie for a great cause.
- Office space for clubs: As noted by my predecessor, the arrangements to transfer ownership of MFCF office space on the third floor to student clubs should take place this year, either this term or the next. We hope students will be able to communicate with the clubs that they are involved in.

That's about it. Whoever the president shall be at any given time, you can reach him/her/me at prez@mathsoc.uwaterloo.ca or you can find him/her/me in MC3038.

Raymond Lai
President, W05/S05

VPAS Sez

Life as the lone, real exec of MathSoc.



It seems that no brave soul wanted the job of VPAS, so I was acclaimed (Boo to no elections!). Hence, I should introduce myself. I'm Elaine, MathSoc Vice-President, Activities and Services for Winter and Fall 2005. I'm more or less in charge of the day-to-day operations of MathSoc. The next time you use the MathSoc Office to staple your assignments, photocopy notes for \$0.05/page, or you eat a giant bag of cotton candy you got from the 3rd floor of the MC or hog the DDR machine for 4 hours during MathSoc Cove Night, think of me kindly, and think of this term's MathSoc directors too!

Speaking of MathSoc directors, I should introduce them to you.

For Charity Ball we have Shirley Chen; she'll be ensuring that this magical night will be the best semi-formal night EVER!

Computing is Eric Logan; he makes sure computers in MathSoc are running and the web server is still working. Which is important as when the MathSoc web server is down, so is the online exam bank.

Resources is Adeel Jawed. This term, Adeel is rummaging through the exam bank and making sure exams are not as old as you are. Yes, there are exams from the 1980s in the exam bank. If you have old exams, (preferably within the last three years), please e-mail him at resources@mathsoc.uwaterloo.ca.

Website is Melody Hui. She's going to try and put some fun new things on the website, including MathSoc Office hours, a photo gallery and an online calendar. Check out her progress at <http://www.MathSoc.uwaterloo.ca>.

Keeping the office open and supplies plentiful are Sharalyn Chen, Mike Tao and Alex McCausland. But they need to go to class sometimes, so feel free to sign up for an office hour, either on the MathSoc Office door (MC 3038) or by e-mailing the directors at office@mathsoc.uwaterloo.ca.

Novelties is Jen Mecking. She's designing some cooler math stuff to wear, and ensuring that MathSoc will forever have an endless supply of pink ties and cheat shirts. For those budding MathSoc fashion designers, she always likes to get new designs from people, so reach her at novelties@mathsoc.uwaterloo.ca.

Andrew Fransen is the fearless Postings Director; you can see him stapling and removing flyers from various pink bulletin boards around the MC.

Those wishing to relax on Thursdays, Peter Lukow, the awesome movie director, has a wonderful selection of movies being shown in MC 2066 for the bargain price of 2 movies for \$2!

Those wanting to attend any social events should check out the work of Ehsan Sarrafian, social director extraordinaire. He'll be planning fun events like Cove Night, Cotton Candy Day, Hot Chocolate Day, Pi Day, Games Night, Bowling or Pool Night, and Candy-grams.

First Year Affairs is Ryan Dyck. Bug him anytime if you're frosh. His e-mail is fya@mathsoc.uwaterloo.ca.

Gautam Khanna and Jane Yang are the publicity directors. You can catch all their artistic talents around the MC advertising fun MathSoc events for all.

Last but not least, Geoff Pease is your Athletics Director. If you still want to participate in teams, e-mail him at athletics@mathsoc.uwaterloo.ca.

Also, people I should thank so far for helping out MathSoc are those who signed up to be on the SWAT team. The SWAT team is comprised of those who are general volunteers that help out in any way possible. If you're interested in signing up for the mailing list please e-mail me at vpas@mathsoc.uwaterloo.ca.

I hope to make this term a great one, if you have any concerns, ideas, or just enjoy free candy drop by MC 3035 and visit me whenever I'm in the office. My office hours are Tuesday/Thursday, starting at 11am.

Elaine Wong
Vice President, Activities and Services
Mathematics Society

Greetings *mathNEWS* readers

The Computer Science Club held its elections last Thursday (the 13th), and 4 new executives have been voted in. They are:

- Alex Tsay, President
- Leslie Northam, Vice-President
- Dan Morton, Secretary
- Holden Karau, Treasurer

Congratulations to all of them. It's shaping up to be a great term for the CSC. We have many events in the works, including talks on many relevant subjects. It's still a little early for details, but keep your eyes open for posters, or come by the CSC. It's MC3036, just around the corner from the MathSoc office. We keep the office open virtually all day and all night, so come by any time.

We are also eager to get new members. Membership is \$2.00, and comes with many benefits. Again, stop by the office for details.

Happy New Term everyone,

CSCFlasher

PS: Watch out for the lemmings....

Orientation Leader Applications

Orientation week is a great way to get involved on campus and make a difference to hundreds of first-year math students. Plus, you get to have just as much fun as the first years while you're at it. There are many different ways to help out with frosh week, including:

Leader - Frosh leaders spend the majority of frosh week interacting directly with the frosh. They get to participate in most of the events that the frosh do.

IceBreaker - Icebreakers run the events during frosh week, and spend more time working behind the scenes than leaders. They also get some perks that leaders don't, such as bribes during the Scavenger Hunt.

Tie Guard - Are you protective? Enjoy camping? Have an uncontrollable urge to stay up for no reason? Then consider being tie guard. You can stay up with frosh during orientation week and guard the tie.

Co-ordinators - Co-ordinators are in charge of one specific aspect of Orientation week. If there's one thing you're really passionate about, whether it's planning events or smooth-talking sponsors, then consider co-ordinating it. When they aren't needed for their specific aspect of the week, co-ordinators spend most of their time as either a leader or icebreaker.

Teamsters - Like driving? A lot? Teamsters drive a van during the week, making deliveries and emergency runs for supplies. It's a lot of fun, but requires a valid G license.

Applications for all of these positions are now available outside the MathSoc office (MC 3038) and can be returned to the same location. Once you've submitted an application, be sure to sign up for an interview. The sign-up sheet is on the MathSoc office door. Interviews end February 3rd. For additional information or to apply online go to www.orientation.math.uwaterloo.ca.

Math Orientation Directors, 2005

Sam Leung, Lino Demasi, Adam Felix, Chris Alexander

Campus Day

Tuesday, March 15, 2005

We need your help during Campus Day 2005! Campus Day is an annual open-house event for prospective students who want a glimpse of life at the University of Waterloo. Over the past few years in the Faculty of Mathematics, we have had as many as 500 visitors who came from all parts of Canada to take part in our Campus Day programs. Like last year, we'll offer information sessions, student-led tours, displays, and labs.

Five reasons to get involved:• Prospective students want to hear about your experiences at UW.

- You have great school spirit and enjoy getting involved.
- You are proud of the University of Waterloo.
- This event is fun and very social.
- To make it a success, Campus Day needs volunteers from a wide range of programs with a variety of skills.

Campus Day jobs that might interest you

We need early risers for early-morning set up of tables, hanging of signs and decorating with balloons; we also need tour guides; meeters and greeters, volunteers for our registration/information centre and for our hospitality area, and ambassadors who will take visitors to various locations.

Volunteer meeting Wednesday, February 16th

Sign up to volunteer for Campus Day: attend this brief meeting to sign up for one or more of the jobs listed above and for the time slots that best fit your schedule. Information will be given about what will take place this year in the Faculty of Mathematics and across campus on Campus Day.

Where: MC 5136B

When: 4:30 - 5:00 p.m.

Volunteer training sessions

All Campus Day volunteers are encouraged to attend one of the following training sessions:

Monday, March 7 — 4:00 - 5:00 (Room:TBA)

Tuesday, March 8 — 4:00 - 5:00 (Room:TBA)

Contact information

If you want to help but need more information, please contact Gayle Goodfellow at ggoodfel@math.uwaterloo.ca or drop by MC 5105.

Gayle Goodfellow

Scunt W05 Next Week

The Engineering Scavenger Hunt this term will be held from noon on January 28th to noon on the 29th. Scunt is a full 24 hours of crazy activities, trivia, acquisitions, and fun. There is also a house visit where we all go to someone's house to entertain the organizers while enjoying some incredible food. The event is always fun, and Math always puts in a strong showing. We've even beat the Engineers a few times for the trophy.

To find out more, show up to the disOrg next Wednesday, January 26 at 3:30 pm in the Comfy Lounge, or check out www.scunt.org

Chris Alexander

Mathie Team Captain, Scunt W05
cialexan@uwaterloo.ca

MathSoc Movie Nights

2 Movies, 2 Dollars

Attention Movie Goers!! This is where I get to talk about my directorship, and all the movies I get to play. If you didn't come out last night, you missed the 1968 release of "The Producers" and "History of the World: Part 1". You can have a look and see what we are playing next week by looking at the big yellow board. You know, the one across from the C&D/Comfy... the one across from the BLACK BOX... anyway, if you look, I'm sure that you will find it.

If you have any ideas of movies that you would like to see, or any other ideas that you think would make Movie Night a better event, please email me at movies@mathsoc.uwaterloo.ca. So keep an eye out for upcoming features, and see you at the movies! [*Where might these movies be playing, you may ask? Well, take a look at the lookAHEAD! — BeatleEd*]

MathSoc Movies Guy

campusNEWS

Welcome to *campusNEWS*, where we bring you actual news that's relevant to math students from around the campus.

Many of you have probably noticed the disappearance of the "Egg Fountain" from the south-east corner of the MC. Turns out it has been taken away to be repaired. We anxiously await the return of our beloved statue.

Executive nomination for the Federation of Students ended a few days ago. Elections for the four executive positions will be happening in February. Look around for campaign posters to see who's running. There will also be referendum questions appearing on the ballot. Cast your vote in February.

A mysterious person or persons broke into the Dean of Engineering office and stole, among other things, keys to all offices and rooms in all engineering buildings. I wonder how they engineered that one.

Propaganda for Mozilla Firefox has been appearing on whiteboards and chalkboards around the MC, telling people how they can download the Firefox browser for their home computers.

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Announcing MathSoc's Textbook Library

Have you ever been at school and just needed to look something up in your textbook, but it was at home? Or better yet, haven't bought your textbook? Well now, instead of making the long trek home, you can use one of MathSoc's textbooks!

Thanks to the generous support of MEF (the Math Endowment Fund), MathSoc now has at least one copy of the required textbook for every first and second year core math course. You can borrow one in exchange for your WatCard from the MathSoc office, MC3038. We also have many other reference textbooks available that are not specifically required for courses.

Happy studying! And if you have any suggestions on how to improve the textbook library, you can email vpa@mathsoc.uwaterloo.ca.

Diana Chisholm
MathSoc Interim VPA

senateNEWS

Senate?

The University of Waterloo, academically speaking, is run by the Senate, a body comprised of faculty, students (in both graduate and undergraduate flavours), and administrators (the university is actually run by a Board of Governors on which sits the same sort of people as Senate, as well as people who are... well to do about town; for example, Mike Lazaridis (co-CEO of RIM) sits as Chancellor). But what senate is, and more importantly what it does has long been a mystery to the average student. That is because it is hard to describe just what a body which meets monthly for 2 hours and does everything in relation to academics at a university really accomplishes. There is very little actual work is done at senate. Business simply passes through senate as quickly as possible, and hopefully the changes have been vetted in committee before arriving at senate.

To really understand when the Senate gets actively involved, it is best to consider examples which affect you. So what kind of issue does senate discuss in depth? The exam schedule is a prime candidate. The Registrars Office saw there was a problem with the pulling of fire alarms shenanigans (the actual word used in the Senate package). Upon further consideration, there was a mounting problem with exam conflicts. Various solutions were considered in committee. 'Wait,' you wonder, 'what if we considered holding the exams in...?' Stop. All possible solutions were considered in committee, and they came up with an answer. They told various stakeholders about the idea. Some faculties discussed it in detail, some professors didn't know about the idea until it came to senate. After a long discussion (by senate standards), and the general understanding that there had been enough consultation even though some profs still probably didn't know about it (it was discussed at our Dean's advisory board, but there was hardly enthusiastic support), senate voted in favour of the idea.

So here is where we come back to you. Assuming this isn't your last term, then your exams will be different starting Spring 2005. There will be a four exam time slots a day, and exams will be a maximum of 2 hour and 30 minutes long. The slots will be 9:00 - 11:30, 12:30-3:00, 4:00 - 6:30, 7:30 - 10:00. In addition the Registrar will strive to meet these goals: (a) no student will have two exams in a row, (b) no student writing in the last slot one day will have to write the next morning, (c) no student will write more than two exams in a day. If a, b or c cannot be accomplished for a student, the University will be ensure relief by making alternative scheduling arrangements for student, so look for that. So Senate is the gate keeper for all academic change, stopping for not too long to discuss major changes that affect all faculty and all students.

Albert O'Connor
Math Senator

Mathie Service Announcement

Don't try to pick up Western girls by telling them that your hobbies include making fun of them in *mathNEWS*. For some reason, it doesn't work.

SquirrelToken
Still trying to master the subtle arts

How to Deal with Too Much Stuff

It's 5' o'clock in the morning on Sunday... wait... it's actually Monday. There's a "term test" on Wednesday, an assignment due on Wednesday, two more are due on Friday. Nothing too bad. The only problem is that you have joined various clubs and organizations (let us assume... 3 give or take a few you can't remember). You are also part of exec in one more club that you joined. You are responsible for something really really important in that club that needs to be done that week.

You are now in Stats 230 that day and have just woken up. You wonder where all the time went. You are also wondering how you got to class. The worst part about this is that you weren't drinking. You don't know if it was better if you were drinking or not.

If your experience is half as extreme as this, then chances are you have too much extra stuff to do. This could be the result of joining too many clubs and/or other organizations and/or teams.

If this is the case then here are some tips to help you out. These are ways to get more time and save/get massive amounts of energy. For those that aren't anywhere close to this will also find this useful. By following these tips, you can add even more time and energy to the excess amounts you already have.

- **Use highlighters, course notes and pencils:** If you get the chance to copy notes or highlight notes in your course notes, highlight those notes. If those notes on the board do not exist in your course notes (there **WILL** be many times), write them in.
- **Stop joining clubs if you can't remember ones you are already in:** This is a pretty simple concept. It's hard to follow though. Even I have a hard time with this.
- **Get any type of organiser, and use it:** The easy part is finding one. All you need to do is buy one from one of the stores on campus. Maybe you already have a free one [*I believe FEDS still gives them out — BeatleEd*]. The hard part is using your brand new organiser... device... thingy.

However, this will save insane amounts of time.

- **Get some exercise:** Although this takes up a little time, this will give you more energy if done correctly. You'll be able to last longer while doing annoying assignments. You will also be able to deal with surprisingly more stress easily. [*And you'll be as buff as ME! — SheepNinEd*]
- **Attend lectures:** Although this may seem counter-intuitive to some, this will save you amazing amounts of time and energy. Even if you must sleep in class, at the very least you know if there is a last minute change to anything you might know.
- **Yield to temptation at least once every two days:** This way you can control your eating habits. Eat healthy the rest of the time. This is easy if you have access to fruits and veggies. If you are eating healthy, then don't eat white bread or anything with "enriched white flour". White bread is not that bad for your body. It just has very little nutritional value.
- **Follow your plan 80%:** You should at least follow most of your plan that you made with your organiser. However, not being a little flexible will make you lose opportunities that would make you save even more time and energy.
- **Study how things are marked and weighted:** Everyone tells you to do this so that you can know how to divide your time. I will tell you this. Read between the lines.
- **When a prof or TA gives advice, do your best to heed it:** This includes advice that is constantly repeated. This is sometimes hard to follow. However, if you succeed in following their advice, you have saved countless hours in front of a computer screen or at a desk late at night.

Use these tips at your own risk. My wisdom does not apply to everyone. However most of my words should help... I hope.

Sleepy Fox

Top 10 Clothing Stores for Mathies

1. The GAAP

Not just for accountants anymore. The GAAP features exclusively nerdy clothing common to accountants these days. For all those who are looking for the suspenders worn with socks and sandals look, The GAAP is a must shopping location this term.

2. LHospital

From the ever so popular club clothing store Le Chateau, an offspring has come this season just for mathies. At LHospital you'll find tight clothes that will accentuate all the lines tangent to your curves.

3. La Statistique

Odds are greater than 50% that you will find a good deal on all fashion this season. There are nearly infinite permutations of clothing arrangements to choose from.

4. Dolce and Galois

Does the field of your wardrobe need to be extended? The new german designer Otto Morphism will have a few high quality pieces for you.

5. Christian Di XOR

Show off your bits right this season with Christian Di XOR. Guaranteed to turn you on (or off).

6. Ralph Laplace

Do you need change? Perhaps a transformation? Apply an integral transform to your functions this season.

7. Giorgio Armanpagesi

Do you need a manual to look good this winter? Be sure to get all the advice you need with certified math fashion consultants at Giorgio Armanpagesi.

8. Pra dotproduct

I bet you can't see the vectors on your normal shoes. Buy a pair of Pra dotproduct shoes this year to fill that null space in your closet.

9. MINolo

Are you strapped for cash this season? Shop at MINolo for fashionable items with costs approaching a reasonable distance of zero.

10. Hugo DOS

It's always important to have a few classic items in one's closet. If your looking for that dotmatrixy black and white classic suit look, be sure to check out Hugo DOS.

And there you have it. All the best stores for clothes to go with your fantastic and fabulous pink tie.

Mr. Fabulous

Kevin Spacey Outstanding

Nobody surprised yet

With the recent announcement that Kevin Spacey has been cast as the next Lex Luthor for the upcoming Superman movie, I decided to watch some Kevin Spacey movies that I had either not seen recently or had not seen at all.

K-PAX

In this movie, Kevin Spacey plays opposite Jeff Bridges as a patient in a mental institution, claiming to be from the distant planet of K-PAX. The absence of typical “action” (consisting primarily of car crashes, explosions or gun battles) makes way for plenty more drama and intrigue. Is Prot an alien? This is a real question that the movie may or may not answer (I’ve only seen it once). In any case, this is definitely a movie I will be watching again.

The Usual Suspects

Anyone that knows me will be able to tell you that this is probably my favorite movie. Kevin Spacey plays Roger ‘Verbal’ Kint, a cripple once convicted of insurance fraud. The movie recounts events leading up to the explosion of a cargo ship supposedly containing \$100M in cocaine. Kint spins a true web of intrigue leading up to the events occurring on the previous day. If you’re looking for a movie that you can watch again and again, so long as you either convince yourself that you don’t know the ending, or just try to figure it out even earlier. There’s nothing better than figuring out the end in the opening sequence when everyone else you’re watching with has yet to see the movie. Enjoy the shivers you’ll get once you’ve watched it again and again.

Mark “Beatlemaniac”

WoW

Give Me My Life Back

Alright... I need to write this quick... I am in the middle of Burning Blood and I need to get back to it before I die. Since it started a month and a half ago I have seen very little of the sun and even less of my family and friends. *[How is this different from usual? — SheepNinEd]* I have been reduced to meeting my friends in the game. It is what my mom terms as my “virtual dates”. Just cause lots of guys give me things should not mean it has anything to do with dates (though for everyone out there planning on or playing a MMORPG: if you play a female character, people will give you things. Trust me on this). I did enjoy that, when I joined my guild, they actually needed to ask, “Are you a real girl?” It is fun that I am the only real girl of 10 female characters in my guild.

Wait, was this supposed to be me asking for my life back from World of Warcraft...? Well, I guess I should do some actual school work. But that is so much less fun. Maybe assignments should be put into a MMORPG format... I know I would actually be tempted to do mine then. For now I will just make sure I confine myself to the computer labs in the MC, ‘cause as long as they don’t have WoW I will get my assignments done.

Heather “Rain Water” Perry

Mandelbrot with BASH

Fun with bash is meant to be a semi regular article about the Bourne again Shell. First thing you should know is that bash is much better than csh, the default shell if you havn’t changed it. To change to bash, or some other better shell, you just have to use the chsh command when logged in. I’m not quite sure of the syntax, but you should just type “man chsh” and that should get you somewhere. In fact, I know just about nothing about bash except for how to use the man command. You can use “man man” to find out how.

Originally I was going to write an article explaining how to render a Mandelbrot set fractal using ascii to your terminal. My knowledge of bash being what it is though, the script is not yet working. So instead I will explain some of the math behind generating the Mandelbrot set fractal. I’m going to assume some knowledge of complex numbers, as most people have been through Classical Algebra or Linear Algebra II.

The Mandelbrot is on the complex plane. The set of complex points that are in the Mandelbrot set are within 2 units of the origin, so rendering something far away or zoomed out won’t get any interesting results. To see if a point is in the Mandelbrot you can use the following equation:

$$Z_{n+1} = Z_n * Z_n + Z_0$$

If Z_n ever diverges, then the point is not on the Mandelbrot set. Somebody proved that if Z_n ’s magnitude ever went past 2, it would diverge. Also, you probably don’t want any programs you write to infinitely recurse, so you can assume that for k sufficiently large if $||Z_n|| < 2$ for $n > k$, the point is in the set. k with values bigger than 32 work fairly well if you aren’t zoomed in very far.

So to actually get a pretty picture (or a crappy ascii one) you would take a grid of points for each pixel/character and push it through the equation. If the number of passes before the point diverges is less than k you could assign some random colour to it. This results is a pretty picture if you’re good at picking random colours. If the number of passes is k, you should make the colour black because that’s the way Mandelbrot sets are drawn...

Not sure what all this has to do with bash, but I’ll get some source code next issue (maybe even with comments!).

You’re only as clean as your towel.

Virtual Drive

It’s Like a CD Drive, But Not

Have you ever felt the need to test an ISO file without wasting a CD? Were you ever too lazy to dig a disk out of your massive CD wallet? If so, I think I found a program you could be interested in. “DAEMON Tools” is a free program that allows the user to mount ISO CD images from your hard drive as a letter drive on your Windows machine. This means that you can rip commonly used disks to your hard drive for easy access. It has a very clean menu based interface and is able to mount up to 4 images that stay mounted after the program has closed! I have tried a few alternatives and found this to be the best by far. You can pick up a copy from: www.daemon-tools.cc.

Val

profQUOTES

“Oh my God, is that a space ship landing in the classroom?”

Tim Brecht, CS350

“This class is full, so if you’re not going to laugh at my jokes, you might as well just leave and make space for people who will.”

Simon Wood, Music 246

“I opened my email inbox today and there were about 7,000 emails in there. Most of them were about... stuff.”

Robert Cook, ECON 361

“We have a unique opportunity here. [points to seeing-eye dog] Don’t let the dog beat you in this class.”

Robert Cook, ECON 361

“Questions? Come on, if there are no questions I have to start teaching.”

Robert Cook, ECON 361

“Is this worth doing? Should we eat Cream of Spotted Owl Soup? They’re endangered, by the way.”

Robert Cook, ECON 361

“Has that ever happened? You spend lots of money on a date and realize you’re thinking, ‘Holy, what a drip.’ That’s a sunk cost.”

Robert Cook, ECON 361

“No one here is a York grad? I make lots of fun of them!”

Robert Cook, ECON 361

“Performing a sensitivity analysis doesn’t mean you touch yourself. It doesn’t mean be one with nature.”

Robert Cook, ECON 361

“There’s a great difference between ignorance and stupidity, and I hope you’re all aware of it.”

Malton, CS 246

“I urge you strongly to take the philosophical ‘decoartions’ in the book and take them with a large grain of salt.”

Malton, CS 246

“... and if I start wondering about this too much, it could be a sign I need to take my pills.”

Bruno, PHIL 259

“A+’s for people who sat at the front of the room.”

Goulden, MATH 239

“Try putting 420 into your calculator and hitting the factorial button, see what four letter words it tells you... I guess if it’s non-programmable it doesn’t know any of those words.”

McLeish, STAT 230

“The sixth floor isn’t that bad, I’ve been there for eight years and almost know my way around.”

Balka, STAT 231

“Call me strange, but I think at this stage, you should be able to write a full sentence.”

McArthur, ENGL 208A

mastHEAD*First Edition*

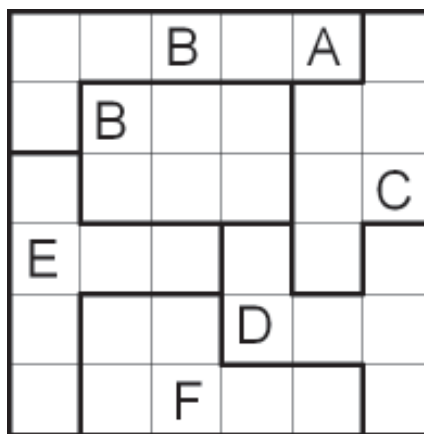
So, after a week of getting organized to make sure everything would work smoothly, we have the first issue of the term. It wasn’t all that much work, actually, it really was just that it took time to get organized.

Being the first issue of the year, we decided to ask our productionalists about their New Year’s resolutions...Which New Year’s resolution did you break first?: π (to not sign any *mastHEADS*), Andrew F (To not make any New Year’s resolutions), Peter (To not write for *mathNEWS*), Tom (I will not get drunk...I think...err...wait...I forgot, I was too drunk at the time.), Jimmy the Leper (To go to tutorials this year... OR 1024*768), Sleepy Fox (To not sleep in class 3 times in a 50 minute lecture), Val (Learn how to use a phone), Rain Water (to not trade sexual favoirs for CS help), DanS (to do all my assignments...err...profs), Kaitlyn “Half-pint” (To not pull stunts to be the centre of attention), Snuggles (The Olsen Twins, Britney Spears’ replacement as the gateway drug to kiddie porn), Diana (To not be cast as a clueless kank in FASS...again), Eric “inkEd” Logan (Resolutions are for wishy-washy hippies!)

Chris “SheepNine” (I will make a resolution this year)

Emerald (A new year? Damn it, when’d that happen?),

Mark “Beatlemaniac” (New Year’s Resolutions? I’m already perfect)

BYOB Jr.

Despite the fact that we included the answer in the last issue of last term, we still got a submission, and it was perfectly correct! So Eric Poon gets my BYOB Jr. thumb of approval, but no prize due to the answer appearing on the inside cover of that issue.

Fun Fact about BYOB Jr: In modern times the first set of Latin Square puzzles were published in *GAMES*

World of Puzzles in July 1996, they were later published in *Chime* (the Chicago Mensa newsletter) two years later.

The image shown has six shapes with six squares each. Place the letters A through F in the squares such that each row, column, and sub-block contains each letter exactly once (Exactly one letter per square please).

Mini-Snuggles

“You know why your tuition costs so much? The pile of blue overhead pens I take home is ready for gravitational collapse.”

Robert Cook, ECON 361

“If individuals all prefer swimming in a lake to being burned alive at a stake, when they get together in a group, they’re not all going to go crazy and decide they prefer burning at the stake as a group.”

Robert Cook, ECON 361

Warcraft

The Board Game

I recently acquired and played a game of Warcraft: The Board Game. Since *mathNEWS* is going for more math and news content, I've decided to write up a review so that more people will know about its existence.

The game features all four races from the computer game (being human, orc, night elf and undead, for the uninitiated among you), and comes with a dizzying array of wooden pieces and cardboard cutouts. There's no board per se, just a collection of differently-shaped hex tiles that can be recombined into various configurations for endless fun. [OOH! Sounds like *Settlers!* — *BeatleEd*]

Gameplay is divided into four phases — movement, harvesting, deploying and purchasing. Movement is arguably the most intense phase, since it dictates when and where you fight. The others are reasonably straightforward: you mine wood and gold in the harvesting phase, you deploy units and finish buildings in the deploy phase, and you buy units and build buildings to be deployed next term in the purchasing phase.

Battle in WtBG occurs when, during the movement phase, units from one person move into a square occupied by an enemy's units. Then, after the requisite Final Fantasy battle-start sound from one of the more smartass players, you start rolling to see who dies. First, ranged units launch salvos, then flying units sweep down, then ground units fight and miss the air units entirely because they can't kill them. But they do it dramatically.

Battle would be reasonably straightforward if not for experience cards. You get three cards at the start of the game, one each time you enter combat, and once when you win a combat. Each race has their own unique cards, featuring such racial abilities as envenomed spears, call to arms, and marksmanship. The "fast" card, available to each race, is arguably the most tactical. In my first game, my team lost when one of the enemy played TWO fast cards resulting in their entire army mobilizing and entering combat, decimating our holdings and leaving us broken.

The tech tree is mostly nonexistent, given the board-like nature. You can build only unit-producing buildings, which allow you to build more units at a time. You can also spend resources to upgrade your units so that they kill more frequently and gain abilities like bloodlust and area attack.

So, in conclusion, you should play/buy Warcraft: The Board Game if you liked the game but sucked really bad at the micromanaging, since you have a lot more time to think in this turn-based incarnation. If, however, you're one of those crazy people that run human caster armies and completely rock everyone, you'll miss the complexity of the computer game, and should thus stick to it so that you can win.

SheepNine

"Global warming won't bother me. My bones might blow around a bit. But my kids might have to ride camels across the desert!"

Robert Cook, ECON 361

"We're not going to do anything too exotic."

Younger, MATH 235

ElseWhen

25 Years Ago in mathNEWS

Welcome to ElseWhen, when someone reaches into the *mathNEWS* archives and pulls out something that may have once been pertinent. People who read issues in the Fall may remember that I did this back then from issues 10 years ago; I've pushed back the time now. Anyway, I'm pleased to present to you a precis of Volume 22, Issue 1 (Holy crap! This current issue is in Volume 97!).

inkEd (presently off-stream, but around)

A Blast from the Past

First, let me fill you in on the setup of *mathNEWS* 25 years ago. There were no *prof*QUOTES. There was no *grid*WORD (although this issue does have a word search on the back page). Issues were prepared using a computer, though: articles were typed into a Honeywell (Photon?) printer in the wee hours of the morning, and then cut and pasted on to layout sheets to be delivered to Graphics (we actually still have a few of these). We did have our precious ISSN. The *look*AHEAD was a hand-drawn calendar with the week starting on Friday. The *mast*HEAD existed, but not as it does today: its sole purpose was to take up extra space left over when all the articles had been pasted into position. It's actually difficult for me to tell you who was editor at the time, too, because the *mast*HEAD was long and rambling and generally listed people and then what they wrote (most of the articles have no bylines). By doing some digging, though, I can tell you that the editor of Volume 22 was Ross "AssEd" Brown. Although he may have been the assistant editor. It's so hard to tell.

In The News

- "I would like to ask all those people who like to play pinball that if they see a machine with an out of order sign on it, to leave the sign there. The math society refuses to give out any refunds to people who try to use the machine when it is broken." [*MathSoc used to have a pinball machine? Cool! — inkEd*]
- Greg Bezoff (who was MathSoc prez at the time) asks students to look out for friends who may be getting suicidal, after a jump in suicides on campus last year.
- Stan Mikoluk, Athletics Director, asks people to sign up for Athletics.
- A restaurant review column, titled "Out to Lunch", makes its debut. Reviewed is the Heidelberg House (located in Heidelberg), which may or may not still exist (the restaurant, not the place). The verdict: "The major drawback is that the service is as relaxed as the atmosphere. Order a jug and wait; it's worth it."
- Prezz Sezz: "...My own job will be up for grabs sometime next month. Somebody please grab it, 'cause I don't want it no more."
- A feature called "Platter Spatter" reviews some LPs, including "The B-52's" and "The Wives: Cigarettes"

In The Funnies

That's odd: a little bit of fiction, a lot of news, but the only humour worth mentioning is a comic strip called "Matt the Mathie", which has both regular and X-rated captions. Better luck next issue...

First Year Electives

High School 101

I'm in forth year now. I'm taking some upper year courses in C&O and Pure Math. I'm also taking elective of the first year variety. In order to get this Honours Math degree, they tell me I have to take ten courses that aren't math courses. So I say to myself, "I should take chemistry. I did that in high school. It should be easy."

So I took Chem 120, and boy was I wrong. It was beyond easy. We spent 8 weeks learning multiplication! Multipli-freakin-cation. They even threw some division in there for good measure. So after an experience like that, what do I do? Why take chem 123 this term!

We're learning about cubes. Cubes! The three dimensional platonic solid. What's the volume of the cube? What's the mass? Now remember that division from last term; find the density!

I highly recommend that all mathies take chem 120 and chem 123 as electives in upper year to help take a load off of your other courses. The best part are the on-line quizzes they have. You get five chances at each quiz. Yes, five, and the quiz doesn't change between attempts and they tell you which of your answers were correct!

Take it early, take it often.

Mathies on Broadway π

It's the beginning of a new term, but that's not all that's new and interesting in the world of math. New classes, new theories, new...theatre?*[And we're not talking FASS here — BeatleEd]* That's right, in an effort to blend math and the arts in an experiment unheard of since the BMath/BDance Double Degree fiasco of '86, we present a new set of mathie musicals. Here's what you can look forward to in 2005:

Phantom of the Comfy - A tale of a previously graduated student stuck in the MC who is rumoured to troll the Comfy Lounge. When Christine, a young froshling, enters with dreams of becoming Settlers champion, she immediately attracts the attention of both him and Raoul, a privileged Double Degree student. How will the plot unfold?

Math - It's Christmas time in Waterloo, and this musical tells the story of two CSers, a Flash Animator named Mark and his roommate Roger, a professional DrumMania player. When their Don comes to collect their V1 residence fees, they must scramble to make the money while still preserving the mathie way of life. Contains great songs like "c.out(tonight)" and "Seasons of Math."

Ring Road Story - It's in the hostile area in the DC quad, where the ties and the hats are engaged in a battle of mathematical wits, that Maria, a first year Tie, and Tony, a upper year Hat, first meet. As their romance blooms, the pressure from their faculties build. Will they overcome the odds, or will the looming threat of a blood-stained Quiz Bowl confrontation drive them apart?

Waterloo - A musical based on the music of ABBA, this story revolves around Sophie, a young co-op student. After countless rejections, she is faced with the frightening prospect of being unemployed *[That HAPPENED to me! — SheepNinEd]*. Sing along to classic tunes like "Does Your Co-op Advisor Know" and "Gimme Gimme Gimme (A Job After Continuous)."

Epsilon and SquirrelToken
Starring in Serge D'Alessio Superstar this season

Squiz

Welcome to another term of *mathNEWS*. Oh no! Save the Squiz! Due to lack of interest and submissions, the squiz is under the microscope. Will there be another squiz next issue? Help us decide by submitting your answers to this week's Squiz! Person or group with the highest score wins a \$5.00 gift certificate for the C&D. It's enough for a good lunch! Submissions will be accepted on paper in the BLACK BOX between the C&D and the Comfy, or can be emailed to jkleinge@uwaterloo.ca (with questions properly labelled). Googling isn't preferred, but happens anyway... but that takes the fun out of it! They're not so hard that you can't figure it out on your own. Good luck!

SquizMaster

Song Quotes:

- Her heart is
breaking in front of me
And I have no choice
Cause I won't say goodbye anymore
- Last chance to dance
Or I'm back at the bar
Shaking hands, nice to meet you
I don't know who you are
- Asked me for your phone
Tried to take control
Oh, I don't see it that way
I don't see it that way
- So I start a revolution from my bed
Cause you said the brains I have went to my head
Step outside, the summertime's in bloom
Stand up beside the fireplace
Take that look from off your face
- See-saw swingin with the boys in the school
And your feet flyin up in the air
Singin hey diddle-diddle with the kitty in the middle
You be swingin like you just dont care

CSI

- Which CSI character is portrayed by an actor from Empire Records?
- Who did Horatio work for before becoming a CSI?
- What is the scientific name for Grissom's hobby?
- What does Mistress Heather say Grissom fears more than anything else?
- What does Catherine have an aptitude for that Grissom doesn't?
- Which is the only CSI series not asked about in this puzzle?

Chobits

- What is Chi's original name?
- What is Chi's sister's name?
- What is special about the Chobits series?
- Where does Hideki work?
- Where does Chi work and who owns the place?

DDR

- In which game can you obtain "Marvelous"?
- How many versions of Paranoia are there?
- What is the name of the option that causes arrows to "bounce" midstream?
- What is the difference between AAA and AAAA?

