

math

NEWS

Volume 97, Issue 4

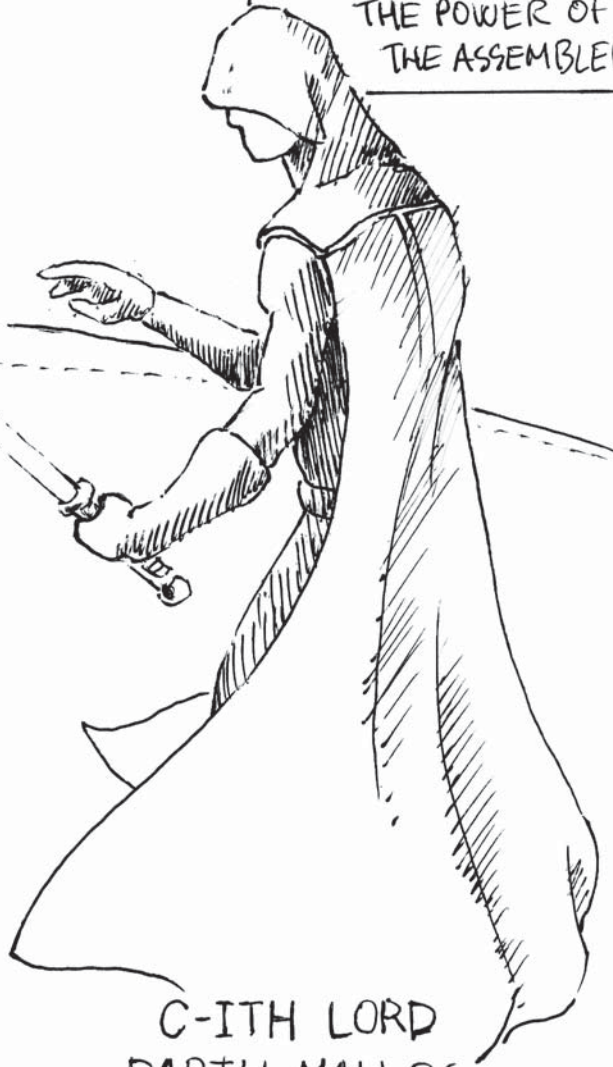
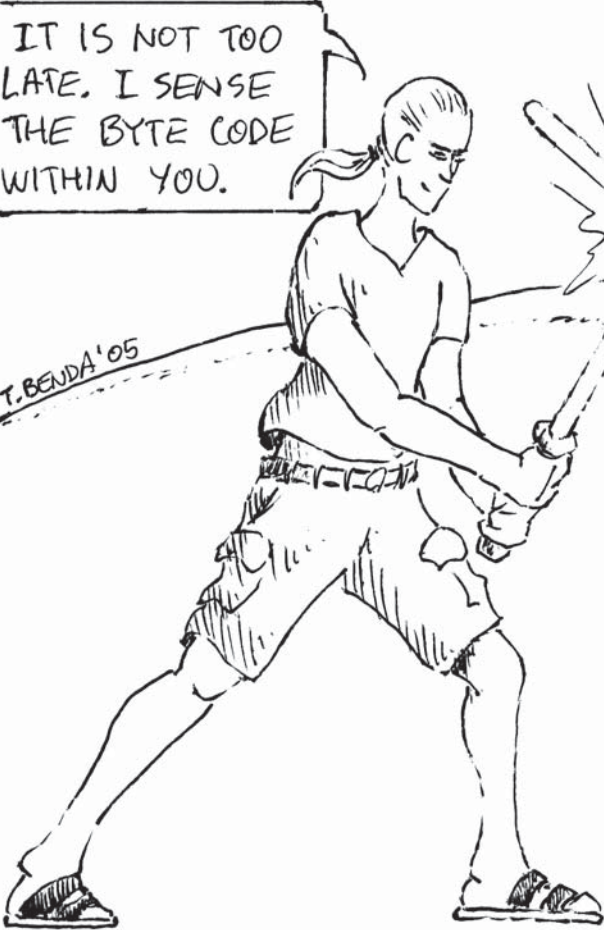
Friday, March 4th, 2005



IT IS NOT TOO LATE. I SENSE THE BYTE CODE WITHIN YOU.

IF YOU ONLY KNEW THE POWER OF THE ASSEMBLER

T. BENDA '05



JAVA MASTER
LUKE HEAPWALKER

C-ITH LORD
DARTH MALLOC

lookAHEAD**mathNEWS**

March 4	Issue #4 defrosts
March 14	Issue #5 Production Night 6:30 PM, MathSoc (MC 3038)
March 18	Issue #5 warms your Friday classes

Math Faculty

March 7	Spring 2005 enrolment begins
March 25	Good Friday — University holiday
March 31	Math & Eng. lectures end

MathSoc

March 9	Stats Club meeting, 3:30 PM, MC TBA
Thursdays	Movie Nights, 7:00 PM, MC 2066 <i>Free!</i>

MGC

March 5	Grad Ball, Waterloo Inn
March 7	Pool Tournament Sign-up begins
Wednesdays	Pizza for sale, MC 3 rd floor

Co-op

Mar. 1 - Apr. 15	Weekly interview cycles
March	Various Workshops See CECS for details

Misc

March 4&5	Warrior Weekend - International Celebration Week, SLC
March 11&12	UW 30-Hour Famine, SLC
March 18	St. Patrick's Day

“You are tied to you program, you love your program, you want to marry your program.”

Pretti, CS 134

mastHEAD*subtitle #4*

Well, another winter term, another reading weekend passed... At least we'll see those extra days come exam time. Do we want a full week? Who knows. That's actually something that's been discussed time and time again but we've never had a “solid” answer, so yeah.

Regardless of its length, we asked our over-vacationed drones: What did you do for reading week? Peiran (wrote stuff and slept), VPF (my girlfriend), ?PuzzleMaster? (“Con”ned people into submitting the *gridWORD*), Math.random() (Sat bored in the suburbs), Val (stayed in bed for four days — that should get me through the rest of the term), Diana (Dave's girlfriend), Mathsoc Movies Guy (Sat back and laughed at Beatlemaniac et al.), DanS (Nerded it up with the nerds (Math & Eng) who were still here), Half-Pint (Gothed it up beyond recognition :-P), InkEd (went to work and cleaned my room. You punks in school this term ...).

Thanks goes to Campus Pizza (you'll always be Gino's in our heart) for their wonderful pizza and to the wonderful team at Graphic Services that slaved to get this issue printed.

SheepNinEd (Played games 'till my eyes bled)

BeatleEd (Watched an average of four movies per day)

StatsEd (Travelled two hours to purchase obscure cookware)

VPF Sez

I can only imagine why manual refreshing seemed like a good idea to the QUEST programmers. After watching my transcript query sit at #2 in the processing queue for 10 clicks of the little yellow refresh button, I started to wonder why I was still trying it. You should try it too... it's wonderfully amusing and mind-boggling at the same time.

It's around the time that summer trips are being planned. For instance, I know a few people planning random trips to Europe. I've been invited on a road- trip to San Diego in a remarkably resilient Buick. Perhaps 'resilient' isn't a great word for it — it's more of a trash heap with wheels. Not that the engineer who owns it did anything wrong; in fact, he has put a lot of time and money into the Red Dragon. He bought a blowtorch to remove a stubborn bolt near the engine, much to the house's glee. “Hey Phil! Dial 9... then 1... then wait for the loud noise!” The trip is set to travel through a good chunk of Texas and New Mexico, right through an area that a roommate described as: “The middle of nowhere. Matter of fact, they detonated nuclear warheads right here because it's the middle of nowhere.” This wouldn't normally concern me, but we intend on filing off the serial number of the car before we leave. When the Red Dragon spitefully breathes it's last breath, I'm expecting us to be in the middle of the middle of nowhere, and I hope that the nuclear fall-out victims (normally mistaken as Roswell aliens) use the small probe.

Back to the subject of European vacations. This message is of particular importance to mathies and other people who read this rag for entertainment: Europeans have more sex than you do. They also drink more irresponsibly, and rely on more mind-altering reagents. Some clarification is in order: You might drink more, but they often don't have last calls. You may shoot whiskey, but they shoot Absinthe. Wormwood causes hallucinations and inspired the work of modern artists like Picasso. You don't draw cubist masterpieces at the bar, you use a napkin and doodle big knockers on stickwomen. The lesson to be learned is simple: you need to desensitize yourself to these cultural differences BEFORE you depart.

You probably also have some catching up to do in the casual sex department — and casual does NOT mean ‘occurring at irregular or infrequent intervals’. In this context, it means ‘suited for everyday use’, ‘Showing little interest or concern’, and ‘superficial’. Don't forget to be especially superficial. People like that when they have mind-altering casual sex. It also might make waiting for quest to refresh your queue status a little more amusing.

David Wheatley

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 useridmathnews@student.math.uwaterloo.ca on the Internet.

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

Prez Sez

So it's Monday, and I really don't want to write this article, but as the lyrics say: "You can't always get what you want, but if you try sometimes, you find, you get what you need."

So here's what's up:

- Ann Dowsett Johnson, the editor in charge of the University Rankings for Macleans, is coming to campus on March 10.
- Grad Ball is tomorrow at Waterloo Inn, hope you have your ticket!
- For the rest of the term, movie nights will be free.
- Due to popular demand, there will be a second Russell Peters show on March 9 2005.

Should you have any questions about this, or about anything else let me know.

Michael A. Tersigni
MathSoc President
W/F 05

Vpas Says

(okay, so I'm attempting to please my grammar geek)

You know it's not your day when you attempt to get out of bed to get presale tickets for Nine Inch Nails. It's hard to win when you're up against healthy goth kids who just got up from their nocturnal slumber. Really, if those tickets were going on sale at 10 AM, I would have so beaten these kids to the punch.

Anyway, March tends to be a busy month for MathSoc, as two big events land in March - π Day and Campus Day.

Now, Pi Day means free pie with optional ice cream. It also means that pies and ice cream are served by the Dean's Office. It also means people can show off their π reciting skills. So, come out on the 3rd floor at 1:59pm and celebrate π Day on March 14th. I hear there's also going to be a movie shown this year about π Day. Nothing like a movie and pie to make the "Mondays" go away. As a bonus this year, MathSoc managed to get freshly baked pies. Mmm... freshly baked pies!

Campus Day is actually on the 15th, just after π day. For those of you who aren't familiar with Campus Day, it's the day where UW opens its doors to high school students who want to know more about the university.

We want you to volunteer! There's tons of things to do, including helping out with tours around the MC. You don't have to be there for the entire day, but you do get a t-shirt and some pizza for helping out. So, sign-up either by putting your name on the sign-up sheet on the MathSoc door or e-mailing me at vpas@mathsoc.uwaterloo.ca. Training sessions for everyone wanting to help out will be starting around the 7th and 8th of March. Information will be ready on the MathSoc website and on posters around the MC.

As always, my wonderful VPAS report, (where I dish out the latest VPAS gossip) is available online. The link is on the mathsoc website (<http://www.mathsoc.uwaterloo.ca>). And if you have a complaint, suggestion or just really bored in class right now, send me an e-mail vpas@mathsoc.uwaterloo.ca.

Elaine "This VPAS has an immune system of a 5-year-old" Wong

ElseWhen

25 Years Ago in mathNEWS

Welcome back to the *mathNEWS* archives where I reach into crusty old red volumes to present a precis of an issue no one's even thought about in 25 years. Today's issue is Volume 22, Issue #3, originally published February 29th, 1980.

inkEd

Les Elections MathSoc Special

Well, MathSoc's been gripped by Elections Fever, as they attempt to elect a new executive to rules them wisely and sagely for the next year. Despite the protestations elsewhere, there really isn't a lot of elections material in the issue. For those who are reminiscing about days past, Greg Bezoff is running for VP (MathSoc didn't get its three-VP system until quite recently), and for President, MAB [sic] Garstin and Ross Brown (and current editor of *mathNEWS*). I'm guessing Greg had an opponent, but nothing was submitted. More on this election in the next issue.

The Marcia Mathie Advice Column

Dear Marcia,

Help! My friends have found me out for the fool that I am. What can I do?

Probably Ragged

Dear Rags,

Stop being a fool.

Marcia

Dear Marcia,

Who am I, anyway?

George Stevens

Dear No-Name,

Why don't you ask the person who forged your signature?

Marcia

Also in the News...

- Trudeau wins another majority [*This was really in the issue! Actual news in mathNEWS! — inkEd*]
- A certain naysayer gets a talking-to in an editorial, which points out, quite correctly, that childish pranks only stand in the way of people trying to get work done.
- The Mathsocists Broomball Team gets bludgeoned (literally, their opponents were drunk), and the Math B Basketball Team loses by nine to Mueller's Maulers.
- *mathNEWS* reminds its readers to be smart when attempting to cheat on exams, by informing students about this one nogoodnik who paid someone else to write his exams (but was eventually found out).
- Platter Spatter reviews Gary Numan's *The Pleasure Principle* (** * 1/2), Moe Koffman's *Back to Bach* (**), and Pink Floyd's *The Wall* ("My opinion: Buy or get a copy of this two-record set. Undoubtedly, *The Wall* will follow its forefathers' footsteps, and remain, like *Dark Side of the Moon*, on Top 200 for many years to come.").
- The MathSoc treasurer reports on the MathSoc budget for the term of W80.
- There exists a *gridWORD!*

MathSoc Movies

Report Number Four

Hi again everyone!! Welcome to the movies report for this issue. I We have some really cool stuff to talk about in this spiel, so on we go!

Movie Nights Undergo Change

It is official! As of this Thursday, which for you reading it at this very moment is more than likely going to be yesterday, we had our first **FREE** movie night, and they shall remain **FREE** for as long as I am the MathSoc Movies Director. So, now you have to rule out ‘not having enough money’ as an excuse for not coming to movie night, since you will no longer have to pay to come.

Oscar Contest Winners

I have made the appropriate calculations, and have come up with winners for the contest. I’m sure that some five-year-old who placed random dots on the page could have had just as strong a chance of winning as those of you who put some thought into it. For the limited few of you who did enter, the winners shall be contacted.

Movie Selections

Ok people, let’s face facts. I am running out of ideas for what to show... well, not really, I have lots of ideas, but I am always looking for more. If you have any movies that you want to see, and now really, really cheap [*as in free — remember, this is also on a big screen with decently big sound — BeatleEd*], please email me at movies@mathsoc.uwaterloo.ca.

Ok folks, I’ve run out of things to say. That’s it for this issue. Until next time, “The balcony is closed, but the snack bar is always open.”

MathSoc Movies Guy

Rock does Oscars

Hilarity ensues

The Oscars, a televised event usually boycotted by yours truly, chose to have Chris Rock host in lieu of the typical Billy Crystal. To me, this was a major improvement. My main reason for boycotting these awards is that the movies that end up winning Oscars are those that I either did not like in the slightest, or those I thought were awful, while in the meantime another movie is much better candidate.

This year was a bit of an exception.

Knowing that Spiderman II stood a 0% chance of being nominated for best picture (despite the fact that it was the best picture I saw last year), I was totally expecting a crappy artsy movie to win that award. I was glad I was proven wrong, especially since *The Aviator* (a movie that I thought looked really crappy from the start) was winning awards left, right and centre early on. The fact that Morgan Freeman finally got an award was great. I mean, look at the stuff the man’s done! (*Se7en*, *The Shawshank Redemption*, and as much as it was a crappy movie (it did win best picture), *Driving Miss Daisy*). How could he not be acknowledged for his portrayal of Ellis Boyd “Red” Redding in *Shawshank*?!? Then again, it took a crappier *Lord Of The Rings* to win a Best Picture.

My biggest complaint about the Oscars is this: There is **NO** way that Beyonce should have been allowed to sing, let alone in French. She butchered that song. Really. I mean, I speak fluent French and could only understand one of every five words she said at most. Pathetic. Oh, and her rendition of Andrew Lloyd Webber’s “Learn To Be Lonely” was even worse. If the Academy had really wanted to impress people, they would have gotten Sarah Brightman in for that. Now I would have been **REALLY** impressed with that.

Mark “Beatlemaniac”

What to do after Graduation

It may occur to some of you 4B people that there is a reason you aren’t getting stressed about co-op right now. In case it isn’t clear, it’s because you’re out on your ass come May. Don’t fret, with *mathNEWS*’s help, you can pick from the following options once you’re done.

- **Get a Job** — This is probably what most of you will end up doing on account of being hooked on “having money” due to your co-op terms. Think of this as a co-op term that never ends.
- **Go to Grad School** — If you have decent grades, and don’t like the idea of doing anything practical, this is the route for you. Be careful with taking this route, as one day you might wake up and realize, “OH SHIT, I’m in this too deep, I might as well go for tenure.”
- **Law School** — Not too many seem to be taking this route nowadays on account of TV getting past its “lawyer phase” and onto its “CSI phase”. If you have a good analytical mind or just plain like the idea of profiting from people getting angry at each other, this is for you.

- **MBET** — This is a fairly new program offered at UW. It’s called the Master of Business, Entrepreneurship, and Technology. It really only defines itself in terms of how it’s different from an MBA — it’s more entrepreneur and technology oriented. The target market for this degree is people smart enough to have tech degrees, but are too stupid to realize the \$24,000 tuition is better used to start a business than learn HOW to start a business.
- **MBA** — Like the idea of spending lots learning stuff you can figure out on the job? Like the idea of paying obscene amounts of tuition? Neither do we.
- **Hobo** — You could always just become a bum. Who needs a job or direction anyway.

But whatever you do, be sure to give to the faculty after you graduate. For no other reason than you can put crazy stipulations on your cash, like that it goes to scholarships for students who can recite the alphabet backwards under 30 seconds.

Ian W. MacKinnon

Not Burning the House Down: Adventures From a First Apartment

Week 4: Romance and the platonic roommate(s)

A topic better suited for last issue

Unless you are on “ignoring each other” terms with your housemates, romance in anyone’s life can become awkward for the entire dwelling. So if any or many of the people living in your house have a significant other, try to keep in their minds a few important points:

- **Even if you do not have homework, your housemates probably do.** This is an important thought to keep in the back of your mind when you consider my next tip.
- **Walls in student housing (and especially rez) are very thin.** You might think that no one can hear you. You might think that your loud pop/techno/disco music is covering up any noise you may be making. But what if you are wrong? Put yourself in your housemates’ shoes and wonder if you want to listen to anything, even talking, *all night long*, in the middle of midterm season.
- **If you can’t find anywhere else to “talk,” form a system to let your housemates know that you and your special friend are home tonight.** No one likes to be surprised by coming home to extra housemates, or to be woken up by... talking. So create a subtle system. Have a code word or phrase to write on a whiteboard near the entrance way (“need to buy bread” or “remind me to call home” or something else neutral), or hang something on your door knob (although the latter is way less subtle). Even better, call ahead, particularly for your girl’s/guy’s sake. It’s unlikely she’ll want to walk in on drunken men playing video games at 2:00 AM (unless she’s in math), or that he’ll be interested in interrupting a Tupperware-style party where the items for sale vibrate.
- **Never ever assume you are the only two people home.** If you know this to be a fact, then party on; otherwise, always wear clothing to the kitchen (no matter the time of day), and always take your showers separately. Being dressed has a double benefit if your housemates enjoy sunlight and usually leave the blinds open.
- **Not everyone has to get along.** Although this would be really nice, it’s not imperative, and trying to force people who just clash to hang out always backfires. You can stagger meal times or work in your room instead of the kitchen to avoid

being in each other’s space. Never drag someone along or insist they join in for a round of Smash Bros. if you know they’d rather not play.

- **Communicate.** Who knows — they may not realize they’re being loud, or that when they hit on your special someone it ticks you off. Bring up your beef before you get angry about it.

Now, I have to admit that my real expertise comes from living together with a friend. So if you’re shacking up with that special “just-friend” but you or they enjoy having a partner visit often, here are some specific (and well-tested) tips.

- **Get cell phones and voicemail, and use them.** The most important thing you can do to have non-awkward moments is keep in touch. Maybe class schedules conflict, but it’s still a good idea to have tabs on where your roomie is, and where they are planning to sleep that night.
- **Make sure everyone is paying for the food they eat.** This gentle balance can be upset very easily if you and your roommate agreed to shop together and split the bill. Your girl/boyfriend could eat more than their share, or, in your attempt to make things fair, you could find yourself paying for groceries every week without your roommate chipping in. If necessary, split up cupboards and shelves in the fridge and assign them to people. It sounds less friendly, but so is bickering about money.
- Most importantly, **Make time for your friend.** You guys decided to live together — make sure you SEE each other! Set aside one night a week (or more) to make dinner/do assignments/go out together, no significant others allowed. If you have to make plans on your date day, don’t cancel. Reschedule.

Common courtesy goes a long way when you are sharing space with someone. But then again, so does patience. If you find yourself about to judge a housemate, first walk a mile in their shoes.

Then, when you judge them, they will be a mile away, and barefoot.

Half-pint, who’s not sure that last “joke” was relevant, but probably doesn’t care

Oh No! More Lemmings Day!

Let’s go! Back by popular demand, we bring you the pseudo-sequel to last term’s Lemmings Day. This time, it’s Oh No! More Lemmings Day! Once again, we will have a retro Amiga 1000 playing the oldskool Lemmings classic, in 2-player mode. That’s right, 2 mice! 2 players! Many innocent deaths! Lots and lots of green hair!

- Projector screen: the pixels are man-sized!
- Live-Action Lemmings (rules are better this time)

- Lemmings Look-Alike Contest: dress + act like your favourite lemming!

Tuesday, March 15

4:30 PM

Location to be determined (check posters!)

Lemmings Day is brought to you by the Computer Science Club, and the letter L.

Michael Biggs

Analyzing Algorithms

Evaluating the Algorithms algorithm

There are three sections of CS 341 (Algorithms) this term, with 234 students enrolled. Part of this course entails having the students submit materials such as assignments and exams for marking and processing, after which the materials are returned to their original users. This system has many users, so we want to ensure that the performance of the processing system is not sluggish or otherwise suboptimal.

So far in the course, there have been three assignments and one midterm. Of these, two assignments and the midterm have been returned to students. CS 341 currently makes use of the Algorithms algorithm for redistributing materials to students. Each type of material is redistributed in a single run of the material return process, which occurs once every few weeks. Our input consists of an unsorted list of n materials, M , and an unsorted list of n students, S . Each material m has an associated student s , called its owner, and each element only appears in one such owner relationship. The pseudocode for this algorithm is as follows:

```
cs341redistribute(M, S):
  for each student s in S do {
    for each material m in M do {
      if m's owner is s then do {
        give m to s
        remove m from M
        remove s from S
        exit loop
      }
    }
  }
```

This algorithm is implemented by putting all the materials randomly into a single box and placing it at the front of the lecture hall.

Let's perform an analysis of this algorithm. We've assumed the worst case that each of the n students has a material to retrieve and each student wants to retrieve that material. The code in the innermost loop consists of the person taking the material and walking away. This action takes $O(1)$ time. The inner materials loop iterates at most n times, so the inner loop is $O(n)$ with $O(1)$ contents, which is $O(n)$ overall. The outer students loop iterates n times, so that loop is $O(n)$ with $O(n)$ contents, or $O(n^2)$ overall. Hence, the running time of this algorithm is $O(n^2)$.

Let's see if we can improve this algorithm. We know the materials have been submitted to the system for processing, so perhaps we can improve our running time by adding a preparatory step to the end of the processing cycle. A natural idea is to sort our input before processing it. It will take $O(n \log n)$ time to sort the materials into order by owner into a single list. However, we find that we can do better if we make use of a linear sorting algorithm.

Start by using bucket sort to sort the materials by owner into $n/20$ buckets. To find the boundaries for these buckets, we can either perform $n/20$ searches of $\log n$ time on the known, sorted list of students we have available, or, if we have stored our students in a special data structure called a computer, we can find these boundaries in $O(1)$ time using a point-and-click algorithm.

Furthermore, this information can be preprocessed and thus provided in $O(1)$ time regardless of our search algorithm. Bucket sort takes $O(n)$ time, and the storage space of each material is negligible relative to the size of a standard room. Note that we'll find it saves time later on if we omit the last step of bucket sort and just return the buckets as output. So, in all, we need $O(1) + O(n) = O(n)$ time to perform this pre-sorting step. The pseudocode for this step is as follows:

```
redistribute2prep(M):
  define buckets B = <b1, ..., b(n/20)> from
  preprocessed data
  bucket sort M into the buckets
  return B
```

Finally, we need to perform the actual redistribution. We don't have a reliable way of sorting the list of students, so we still have an unsorted list of students S as input. However, now we have M sorted into buckets, and we can once again make use of our preprocessed boundary data to reduce running time. Here's our new pseudocode:

```
redistribute2(M, S):
  buckets B = redistribute2prep(M)
  retrieve bucket boundaries from preprocessed data
  for each student s in S do {
    find bucket b from B containing s's material
    for each material m in b do {
      if m's owner is s then do {
        give m to s
        remove m from M
        remove s from S
        exit loop
      }
    }
  }
```

In this algorithm, the contents of the inner loop are still $O(1)$. However, this time our inner loop only iterates over the contents of a single bucket B , which contains at most $n/(n/20) = 20$ elements. Thus, our inner loop takes $O(1)$ time.

Finding the bucket corresponding to a particular student takes $\log n$ time in the strictest sense, using binary search. However, in practice, not only can this step be run concurrently on individual processors dedicated to each student, but these processors are significantly faster than the system running our redistribution algorithm, and this step effectively takes $O(1)$ time.

The outer loop again iterates for the n students, so factoring in the loop contents and the preparatory steps, we find our algorithm takes $O(n)$ time overall. We gain additional speed bonuses when we realize that, in practice, each bucket can be searched independently, and students do not have to "line up" for a bucket other than the one currently in use.

This algorithm is quite an improvement from the previous algorithm! Interestingly, it turns out there are several other ways to improve the original redistribution algorithm, which we can also arrive at by naturally thinking about the problem. It seems like the system would benefit greatly for its many users if we implemented these or other improvements. Hint fucking hint.

Staying Fit

The Alternatives to Exercise

There are many good reasons to stay in shape. Maybe you want to shed those reading week pounds for a significant other, or maybe you're just wondering why your heart hurts when you have to climb the stairs to the sixth floor for *mathNEWS* production night. Whatever your reason, it's a smart idea to think about being healthy sooner rather than later (heart attacks at 20 are not cool).

In the past, you may have tried going to the gym or running, but we all know those things don't work out. We all have a lot of work to do/games to play and can't always find the time. So, in an attempt to save the general math populace from suffering the effects of an unhealthy lifestyle, I have compiled a list of easy and low time-use ways for you to stay in shape that you can do everyday:

- Dance in the shower (this is assuming that you actually shower, and if you don't, you should consider starting. It's worth the extra 10 minutes in the morning to have your friends and family stop avoiding you).
- Talk to your friends. They'll appreciate it and moving your mouth that much has to be doing something good.
- Play DDR. Replace other video gaming with DDR, no extra time, much more movement (just wait for the next Cove night and it's free).
- Stare at breasts. This one only works for guys and lesbians. Staring at a "well endowed" female for 10 minutes is equivalent to a 30 minute work-out in the gym [*The scary thing is there was an article found online that provided this bit of information — BeatleEd*].
- Sugar binges. Take maple sugar shots, sit back and wait for the energy to come. You'll probably start twitching, your heart will beat really fast, and you might even feel sick, but I don't see how it could be a bad thing.
- Masturbate in class. You're still doing the learning, maybe even more attentively (warning: people will probably stare at you; that's what happens to me anyway).
- Never sit still. Always fidget, moving anything around you is good. Tap pens, shake randomly, or even mumble to yourself (your friends may want to kill you after a week of this).
- Give up sleep. Sleep doesn't burn very many calories. This also leads to twitching and hallucinations (both good side effects).

Val, Nemo & Math.random()
In Good Shape!

Two Minute Game Reviews

With a large helping of cynicism

There seems to have been an onslaught of new good games coming out recently, and it would be next to impossible to play them all. In order to aid you in your purchases, here are some reviews/previews of new and upcoming releases.

- **Gran Turismo 4:** Last week brought us one of the most anticipated racing games of all time. 'Anticipated' not only in that it's the next game in a series that defined early PS2 titles, but also in that it was originally set to release in Christmas 2003. This next iteration in the series brings new manufacturers, such as Nike and Jay Leno, and some incredible new cars, like the Ford Model T — none of which the game will allow you to drive. The updated physics engine also makes driving straight into a wall at 400km/h, without dying or taking any sort of damage, all more realistic. Make sure to check out this great new game.
- **Baseball:** We're right in the middle of baseball game release season with everyone releasing this year's games. But who cares about baseball, especially the games based off it? I'm just going to ignore them.
- **The Sims 2: University:** This week also had the next follow up piece to the best selling game of all time. You may now take your Sims to a brand new place they've never been to before, the University. New items like the juice keg and the bubble machine allow your Sims to have a truly authentic university experience, and what better way to slack off from assignments than to watch some computer-created fake human do theirs?
- **Star Wars: Republic Commando:** The week also brought us Lucasarts' next game in their "let's combine this type of game with Star Wars, it might be good" plan. They've released a squad based shooter, but the actual Star Wars part ends at putting you in charge of a team of Clone Troopers during the Clone Wars. The weapon selection only has a few that actually seem like Star Wars weapons at all; a lot more just don't have a Star Wars feel to them, like a pistol that looks like it was stolen from Halo. The character design seems much more accurate to the Star Wars title, but considering the main characters are a red, green and blue clone trooper you'll see where the accuracy is going.

So those were some major titles in current gaming news, I hope that this information helps you with your upcoming gaming decisions. If you're a Nintendo fanboy upset at me for not mentioning Nintendo games at all, then try supporting a console that releases good games more than roughly three times a year [*Add to the fact that they re-release games from previous consoles for their newest consoles... sounds like a rip-off to me! — BeatleEd*].

DanS

"[after Reading Week] Last week, I was watching the Gulf of Mexico instead of your faces. [pauses] You can make your own conclusion as to which I prefer."

Karl, AM 261

profQUOTES

“I actually went to the grocery store to try to find a broccoli with the [self-similar fractal] characteristics I am looking for.”

Collins, AM/PM331

“Why is PeopleSoft called PeopleSoft? It’s because the software doesn’t do the job right, so people have to do the job.”

Cowan, SE382

Prof: “What do you do if your program doesn’t allocate and free memory properly?”

Student: “I submitted it anyway!”

Cowan, SE382

“Oh, look at that! You can’t get a nifty pattern like that in Power Point!”

Cowan, SE382

“This is just thrown in for cultural illumination. No extra charge.”

Karl, AM 261

“Not too many decimal points. You get penalized for putting down too much information that nobody cares about.”

Karl, AM 261

“I’ll try to make a drawing. Please don’t laugh.”

Karl, AM 261

“He also discovered the second law of Thermodynamics, which I’m sure you don’t understand.”

Karl, AM 261

“I’m going to discuss damped harmonic oscillator... There is a ‘p’ in there. DamPed!”

Karl, AM 261

“General method used in all university is guessing the solution.”

Karl, AM 261

“If I am lecturing really well on this, half of you should be asleep, because this is a hard topic that puts you to sleep... unless you had really good sleep the night before, but I presume you did not.”

Karl, AM 261

“If you take a sufficiently nasty force, solution is not known. So if you can’t solve it, don’t feel stupid.”

Karl, AM 261

“Well the most important lecture is the one where you get all the hints for the final exam, but other than that, this is the most important lecture.”

Steiner, Stat 231

“Somebody suggested we have the midterm on February 14th. That’s Galileo’s birthday. That’s also Valentine’s day, which is famous for all those massacres. But I’ll try to avoid that.”

Karl, AM 261

“[writes a formula] You must have done this in your math courses, because if you ask me to prove it, I don’t know how to prove it.”

Karl, AM 261

“Escape velocity, velocity you need to break free and go on forever and ever, with a nice song like the Anthem of the United States, hoping there are other thinking beings out there, so we can send them a present.”

Karl, AM 261

“I am sure you understand it better, since your mind is younger and less cluttered by rubbish.”

Karl, AM 261

“If you have a good quality wine glass... [looks at the class] I presume you only drink beer.”

Karl, AM 261

“I always wish I had green chalk to write “Green’s” function, but it never materializes. [pauses] I’ll write it in pink.”

Karl, AM 261

“I wish you a good weekend. Don’t drink too much!”

Karl, AM 261

“I’m telling you an executive summary for those of you who want to go to sleep soon. This is what you need to remember.”

Karl, AM 261

“If I tell a joke that’s politically correct, somebody will get offended and I’ll get fired.”

Karl, AM 261

“Some people think that a three-body problem is when you are together with your girlfriend and there is someone there.”

Karl, AM 261

“You drive a car. And you naturally steer away from the trucks. At least, I do. Cause you instinctively know that truck is not the one who’ll get hurt. Unless you have a very large car.”

Karl, AM 261

“This is very hard stuff. If you don’t get it, don’t think you are stupid. Well, maybe you are...”

Karl, AM 261

“I presume that you don’t know properties of an ellipse. I should admit, I don’t know what properties of ellipses are. So I’m going to presume you don’t know what an ellipse is.”

Karl, AM 261

“Do you know Maple?” “No.” “That’s a shame. It’s wonderful! You should learn Maple... I don’t know Maple. But it’s trivial.”

Karl, AM 261

“That’s a bad x... Oh it’s a t, that’s why it’s a bad x!”

Poulin, AM 353

“This holds true in all of mechanics [list]. It’s used everywhere. And imagine, some idiot Kepler GUESSED it in the 1600s.”

Karl, AM 261

“At the present stage, as you know I oscillate and change my mind every six hours.”

Karl, AM 261

He was a mathie boy

Sung to our favourite Avril tune

He was a boy
And she was a girl
Can I make it anymore obvious?
He did contests
And she did the arts
What more can I say?
All of her friends
They stuck up their nose
They had a problem with columns and rows

He was a mathie boy
She said see you later boy
He wasn't cool enough for her
She had a pretty face
But hated his eigenspace
She wasn't diagonalizable

N years from now
She's by herself
No degree visible on her shelf
She opens *mathNEWS*
What does she see?
Mathie boy's proved P's not NP
She calls up her friends
They don't understand
But she drives to campus to shake his hand
She finds his office
On the sixth floor
Standing nervous outside his door...

He was a mathie boy
She said see you later boy
He wasn't cool enough for her
A member of faculty
At this University
With his research funded by NSERC

So you've come to say congrats
To find he's met a girl in Stats
Thanks so much for coming out
But you'll find that boy's mine now
Sorry that you couldn't see
What a genius he could be
His function is not just Y
I see where its image lies

He's not just a boy
And I am his girl
Can I make it anymore obvious?
We are in love
And haven't you heard
How both our lives have converged.

Now I'm with the mathie boy
I said see you later boy
Come by and find me after class
I'll be at the campus cove
Playing that game we love
We'll Triple A Paranoia

Now I'm with the mathie boy
I said see you later boy
Come by and find me after class
I'll be at the campus cove
Playing that game we love
We'll Triple A Paranoia

Sincerest apologies from Half-pint and π

More *prof*QUOTES

"You can always send an e-mail. Depending on how bad a day I've had, you get a correspondingly unfriendly answer."

Karl, AM 261

"It's okay if you get it wrong, it makes me look smarter."

West, MATH 128

"You can see that it converges... but let's beat it to death anyway, because it's a Math course and all..."

West, MATH 128

"This might happen, this person might actually have a friend."

Pretti, CS 134

"It's this long [makes motion in air with hands] depending on how long you type in the air."

Pretti, CS 134

Subliminal Avril

Using my "reading days" wisely, I left Waterloo for a family vacation. We decided to go up north for a ski trip. This, oddly enough, brought us ever so close to Casino Rama. Totally a coincidence, I'm sure. I thought I could put my math education to the test and win lots and lots of money, maybe even pay for this oh-so-wonderful education that co-op almost covers.

Well I was totally wrong about that, but I did find out something I didn't expect. Not only is the casino there to take out money, it is selling Canadian music. The ambient music chosen by this casino was of the all Canadian variety. I left feeling the need to purchase another Avril Lavigne CD... and maybe a Shania Twain album.

They played the music just loud enough to be subconsciously heard, but not loud enough for those except the horribly bored to listen to. I understand the desire to get more Canadian content out there and heard, but the casino is already cheating these poor people out of their hard earned money — it doesn't need to sell them anything else.

This has all left me thinking that I'm totally due for some subliminal messages in other places, like malls and supermarkets.

Oh, wait — they already do that.

Heather "Rain Water" Perry

A Bad Case of the Ocmies

The only tension is in that cable between the ships

So last week I was watching the latest episode of *Enterprise*, “Divergence” (speaking of which: wow, that episode was a waste of time. That was not an episode which made me want to save the show. Of course, as an Angel fan, I’m jaded). This episode reminded me of a classic bothering point of TV dramas that’s been bugging me for a while: the ocmies.

“Ocmies” is derived from OCHMI, an abbreviation of the line, “Of course he’ll make it! [It’s TV!]”, uttered by Grandpa in the Simpsons episode “Deep Space Homer”. It refers to the hole that many TV dramas are forced to write around or jump into: namely, the main characters always survive.

Enterprise, and most of *Star Trek* in general, suffers from a fairly bad case of the ocmies. You’ve got the entire main cast stationed in important positions on one little, fragile vessel, and (in *Enterprise* especially) the writers are constantly throwing enemy fire, dangerous phenomena, and miscellaneous do-or-die catastrophes at the ship, and there’s only so much of, “We can’t take another hit,” or, “It’s risky, it’s never been done, can you do it?” that we can take.

I enjoy *Stargate*, but it also caught a little bit of the ocmies from its *Trek* influences. You think the NX-01 is fragile? Drop by *Stargate Command* sometime. Kick the walls with a steel-toed shoe and you’ve got yourself a stable foothold. They might as well save time and install a fucking Clapper on the self-destruct. And hull plating sounds pretty sweet when you’re combing the countryside with three friends in explosives-laden vests.

Of course, not every series suffers from this affliction. There are ways around the problem.

The first solution is to just let characters die. I don’t mean death due to the actor getting bored, or the actor having kids, or

the actor getting indicted; I mean death because the writers want it. This happens every once in a blue moon — Joss Whedon has made use of this solution, to good effect. The minds behind *24* like to cite this quality as part of the show’s suspense. I’m sure there are other examples, but they escape me at the moment. The tricky part about this solution is that until you actually do the deed, you’re assumed to have as much of the ocmies as any other show. This technique has to be earned. Kiefer Sutherland has stated that he would like to kill off Jack Bauer to fully hammer home the point that no life is sacred, but the resulting loss of viewership is probably too much to stomach for the execs.

Another solution is to just not have these sorts of life-or-death situations all the freaking time. Admittedly, it’s mainly the sci-fi shows that show the most symptoms. Death isn’t often going to be an issue for a band of sarcastic lawyers. Of course, when the Reaper does come knocking, you’re going to end up with either a pattern of obviously impending death, or a pattern of escaping death if you’re not careful.

Something genre shows like to do is to bend the rules enough to allow for resurrection. Sure, this lets your characters die, but it still robs the death of any poignancy. Just ask Daniel “Oh look, I’m fucking dead again” Jackson of *Stargate* fame. Or Ensign Harry, “Oh look, I’m fucking dead again, too” Kim from *Star Trek Voyager*. There’s a deeper message behind Kenny’s early years, fellas.

Ideally, I’d like to see writers have control over when characters die, provided that they make deaths relevant to the story, and don’t treat them frivolously — killing off characters on a rapid-fire basis is equally damaging to the effectiveness of character death. But for now, we’ll just have to go on pretending that Earth is the universe’s largest natural source of luck.

HWT

How to write two midterms

...AT THE SAME TIME

So, I nearly missed the *mathNEWS* production night last Monday (which, by the way, you should have been at) due to the alignment of two separate midterms (being BIOL 139 and SE 382, in that order). Luckily, I was saved by the relative simplicity of the 382 material (if you’ve programmed a game in Swing, and I mean really programmed a real game in real Swing, not just copied code from a website and switched a few lines around, then the course will be easy. At least, up until the midterm). But the thought occurred to me (as thoughts are wont to do), of how I could have arrived to the production night even sooner if I’d applied my meager knowledge of CS 343 (concurrency) to write both exams AT THE SAME TIME!

So, the problem becomes, how to write the answer to two questions on two different exams with the same answer. Let us consider the following two questions:

(1A) Mendel disproved the theory that one parent contributes most of the genes to its offspring by:

(1B) Draw the state diagram corresponding to the following production set:

Now, the solution to both of these problems is obvious (reciprocal crosses for the first, and a big state diagram for the second). But you only get one answer. So how do you do it? Easy! Make a state diagram that matches the production set, but arrange it in such a way as when you look at it from far away, the arrows and circles spell out “reciprocal crosses”. Two birds with one stone!

Here’s another example:

(2A) Calculate the probability that a mating between a heterozygote and a recessive homozygote produce a male offspring with the dominant phenotype.

(2B) Write an event loop that has the following features: (feature list)

Solution: Write an event loop that has the features, but calculates probabilities instead of calculating reaction times of users! Huzzah!

Using this method, you’ll be able to draw parallels in everything. EVERYTHING! Pretty soon, you’ll have a unified theory of something that everyone will be amazed at!

SheepNine

WordJumble

The power to live on...

Welcome to another edition of WordJumble! I'm your host, the WordMaster, and I bring you a new style of WordJumble — one with a prize! So submit your answers to this issue's WordJumble to claim your \$5 gift certificate to the C&D! Solutions should be submitted by email to jkleinge@uwaterloo.ca. Print solutions can

be submitted to the BLACK BOX and all solutions are due in by 6:30 pm a week from Monday! So get crackin'!

Solutions to the last WordJumble were: Chart, Chalk, Inbred, Insane. Why did Darth Vader feel like a teenager all the time? He had a Blackhead! Yes, it's a bad joke, but oh well. Think you can do better? Write for *mathNEWS*!

Without further ado, I present this week's WordJumble! Enjoy!

WordMaster

K	N	A	B	S
○	○	○	○	○

M	O	G	I	Z
○	○	○	○	○

T	O	P	R	I	F
○	○	○	○	○	○

S	A	M	U	R	E	E
○	○	○	○	○	○	○

Why the lackadaisical business major
studied the TSX with such fervor.

He wanted to go into

○	○	○	○	○	○	○	○	○
---	---	---	---	---	---	---	---	---

T	I	P	O	L
○	○	○	○	○

H	A	P	E	S
○	○	○	○	○

I	N	B	R	E	D
○	○	○	○	○	○

S	E	A	R	R	E
○	○	○	○	○	○

What students strive for when procrastinating

Some kind of

○	○	○	○	○	○	○	○	○
---	---	---	---	---	---	---	---	---

Canada Snubs Bush

Missiles Misfiring Too Often

Paul Martin announced this week that Canada will not be supporting the crazy notion of shooting missiles down with other missiles. While Calamity Janet may have the ability to bang a bang, Martin decreed that Bush is not the crack-shot that Calamity is. Mr. Martin was unreachable for comment, but we've heard from sources, which wish to remain anonymous, that he thinks Bush is just trying to be "the big boy on the block." Ever since the terrorist attacks of September 11th 2001, the United States of America has curtailed their citizens' rights and used scare tactics to "keep the people safe." In last night's Oscars, Chris Rock even mentioned that he respects Bush — not for his governing, nor for his initiatives, but for his ability to retain his job. Note that the US has gone from having a surplus to a greater than \$70 trillion deficit in less than 4 years. Rock also brought up the "war" (for which the truest name is a terrorist attack by a nation-state) with Iraq. The fact that Bush claimed there were weapons of mass destruction regardless of the fact that every other person on the planet (besides his internal circle of wannabes) knew he was full of himself, illuminates his stupidity.

There is one good thing that can come from this: Martin can continue in politics as long as the people want him to (whether it be not beyond this term or for another 4 terms), but Bush will not be back. Let's just hope that his "legacy" is not a big hole in the economy (although I'm really liking the fact that our dollar is worth \$0.82 US)

Mark "Beatlemaniac"

Schizophrenia in MC

Ever sit in front of two or three people, and one of them keeps commenting out loud and very audibly to the others about the lecture (guessing ahead in proofs, computing numerical answers, criticizing the prof's lecture style, grumbling about homework)?

Annoying, right?

Well, it's not scary until you get up to leave and that person is, in fact, sitting alone.

Half-pint, guilty of this on occasion

mathNEWS BYOB #4*Break Your Own Brain - Four a Good time, Solve*

Welcome to the 16th BYOB! We're now legal in 28 states, woohoo. And now, on with the show.

Scientists with Ketchup

A variation on the old fox, chicken and corn problem this one had some brainy food. There's only one real solution (with trivial alterations):

1. [CCCCSS—] CC over, C back
2. [CCSSS—C] CC over, C back
3. [CSSS—CC] SS over, CS back
4. [CCSS—CS] SS over, C back
5. [CCC—SSS] CC over, C back
6. [CC—CSSS] CC over
7. [—CCSSS] time for a vegetarian party

Graeco-Latin Squares

Firstly, I know how to spell Gr*a*eco despite the glorious ed-its to the contrary, secondly, due to some, shall we say 'interesting' choices in layout [*Actually, due to someone forgetting a <p> tag — StatsEd*] the actual question was left out. This was supposed to be two separate questions, put simply, what is the 4x4 Graeco-Latin Square, and what are the two 5x5 non-isomorphic Graeco-Latin Squares. I take some of the blame myself, not getting my puzzles in till late Tuesday night leads to rushed proof-reading, and so, I choose not to learn from my mistake, as it is now 3AM Tuesday Night/Wednesday Morning [*And given that the issue was ready to go to print Tuesday afternoon, this BYOB almost didn't get printed at all — StatsEd*]. Ah well, here is the 4x4 and the two non-isomorphic 5x5's (interestingly enough, the second 5x5 is found by doing every possible shift of the previous one, denoted in the square brackets, I'm sure this has some C&O usage, I just don't know what it is right now):

Aa Bb Cc Dd
Bc Ad Da Cb
Cd Dc Ab Ba
Db Ca Bd Ac

Aa Bb Cc Dd Ee
Dc Ed Ae Ba Cb
Be Ca Db Ec Ad
Eb Ac Bd Ce Da
Cd De Ea Ab Bc

Aa Bb Cc Dd Ee [0]
Ed Ae Ba Cb Dc [1L = 4R]
Db Ec Ad Be Ca [2L = 3R]
Ce Da Eb Ac Bd [3L = 2R]
Bc Cd De Ea Ab [4L = 1R]

Betty Yip submitted a correct solution to the Scientist/Cannibal problem, but in an attempt to assure me that he still exists, Adam Weatherhead submitted to not just one problem, as is his norm, but two. Amusingly enough, this (combined with the mistake in last issue) caused him to answer every question, and so he gets perfect despite his best intentions. So Adam, come to MC3038 (MathSoc Problem Protection Pen) to pick up your C&D

gift certificate.

Since we often have ties (and I'm not talking about the kind used to hogtie) we need a tiebreaker. So: submit a riddle/puzzle/brain teaser along with full solution, and in the event of a tie, our favourite will win. This has the added benefit that we might use your puzzle, which means you'll be a real published author (appearing in the National Archives of Canada and everything). And the added added benefit of saving MY brain a little. So don't forget those tiebreakers! Please, for the love of everything Mathelicious, submit some tiebreakers. Answers must be in by 6pm on March 14th. You can submit to the BLACK BOX between the C&D and Comfy, you can also email us at *mathNEWS@student.math.uwaterloo.ca*, or followed by a fun game of Find-The-Snuggles (clothing-optional and actually discouraged if you happen to be a certain redhead [*Curse my brown hair! — SheepNinEd*]) in person.

Snow White is quite dirty

The Seven Dwarves and three of their friends finally got Snow White in the mood, find the order in which they dirtied Snow White, and in doing so ensured you'll never watch that movie the same way (I always found the glass casket kind of creepy): Grumpy was in front of Dopey. Stumpy was behind Sneezy and Doc. Doc was in front of Droopy and Happy. Sleepy was behind Stumpy, Smelly and Happy. Happy was in front of Sleepy, Smelly and Bashful. Bashful was behind Smelly, Droopy and Sleepy. Sneezy was in front of Dopey. Smelly was in front of Grumpy, Stumpy and Sneezy. Dopey was in front of Droopy. Sleepy was in front of Grumpy and Bashful. Dopey was behind Sneezy, Doc and Sleepy. Stumpy was in front of Dopey. Smelly was behind Doc.

Money can be exchanged for goods and services

A) You have 16 boxes of 100 coins. You want to cash in to buy some peanuts, however one box contains counterfeit coins and if you try to use them you'll be laughed at by the bourgeoisie and beaten by the proletariat. Each counterfeit coin is 1/16 of an ounce lighter than the real thing. All the coins look identical. You have a digital scale which will give you the exact weight of any number of coins. How many weighings are required to find which box is counterfeit and thus conquer the capitalist pig-dogs.

B) You have 24 coins. One is fake and weighs more than the rest (the rest all weigh exactly the same), all coins look identical. You must find which is the heavy coin in the minimum number of weighings or fall victim to evil imperialist aggression. You have a balance scale to use (given two sets of coins this will determine which weighs more). How many weighings does it take?

Circular logic is Circular

1. The first question with B as the correct answer is: A) 1 B) 4 C) 3 D) 2
2. The answer to Question 4 is: A) D B) A C) B D) C
3. The answer to Question 1 is: A) D B) C C) B D) A
4. The number of questions which have D as the correct answer is: A) 3 B) 2 C) 1 D) 0
5. The number of questions which have B as the correct answer is: A) 0 B) 2 C) 3 D) 1

(continued on next page)

BYOB Jr.

Apparently I'm not the only one who found the diagonal alphabetically ordered information interesting, as eleven people found it in them to submit perfect solutions. Congrats to Adam Weatherhead, Betty Yip, Brandon Wilkinson, Daly Chang, Dan Rosart, Douglas Thomas, Jason Thean, Kevin Blair, Marty MacKenzie, Matthew Hurford, Simon Forsyth for demonstrating that you are better than anyone whose name was not mentioned. Our winner this week is Simon Forsyth, not for something as mundane as winning via Coin-Flipology, but for taking the initiative to come up with an alternate sub-block layout that still works with this week's solution, very cool. So Simon, come on down to MC3038 (Alternative Mathie Night-Care) to pickup your C&D gift certificate. For those of you who were too scared to submit (what are ya, chicken? huh, come on... submit, you know you want to) here is last issue's solution:

D	C	B	E	F	A
A	F	E	D	B	C
E	B	A	C	D	F
C	A	D	F	E	B
B	E	F	A	C	D
F	D	C	B	A	E

Fun Fact about BYOB Jr: Circa 1921 MacNeish published a "proof" of Euler's conjecture that no Euler Square existed for $4k+2$. But in 1959 Bose, Shrikhande, and Parker published a much better proof that Euler Squares exist for every k except 1 (There is no 6×6 square). Take that MacNeish! (This information yoinked from MathWorld).

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).

A					
					B
	C				
		D			
			E		
				B	

Yellow Polka-Dot Snuggles

(continued from previous page)

Well, enjoy the insanity, I'm in a weird mood so I turned some wonderful logic puzzles into strange things, but if you strip away my twisted humour you shouldn't have too much trouble seeing the actual problem. If you like the humour feel free to laugh, or send me some skittles, whatever.

Saucy Snuggles

Graph This!

Alright, this is simple enough: following this paragraph, there are 9 relations. Your job if you have enough spare time and graphing paper (and odds are if you're reading this it's Friday morning and you're in class so you in fact do have that time and maybe even the paper too) or graphing software of some sort will work well too. All you need to do is graph these relations (on the same plane) and check out the picture you get as a result of it.

$$1. (7x)^4 + \left(\frac{y + \frac{6 + \sqrt{2}}{2}}{\frac{6 - \sqrt{2}}{2}} \right)^4 \leq 1$$

$$2. y = -\left| 3\frac{x}{2} \right| - 6 \quad |x| \leq 2$$

$$3. y = -|x| - 2 \quad |x| \leq 2$$

$$4. y = \frac{3 \cos(50x)}{4} + \sqrt{2} \quad |x| \leq \sqrt{2}$$

$$5. y = \frac{3 \sin(50x)}{4} + \sqrt{2} \quad |x| \leq \sqrt{2}$$

$$6. x^2 + y^2 = 2$$

$$7. |x^2 + (-y)^2| = 1 \quad |x| \leq \frac{\sqrt{3}}{2}$$

DanS

Last time, in the gridWORD:

m	u	s	i	c	a		t	i	n	g	l	e	s		
a		h		a		a	m	i		o		o	a		
g	h	o	s	t		m		d		o	p	t	e	d	
i		r		e	n	e	m	i	e	s		t		d	
c	u	t	e	r		n		e		e	l	o	p	e	
a				c			t	a	s		e			s	
l	a	t	h	e	r	s			t	e	m	p	e	s	t
	p	e		o					m		r		o		
j	e	l	l	i	e	s			a	u	t	o	p	s	y
a				o			h	i	d		s				a
c	o	u	n	t		r		m		l	y	r	i	c	
k		n		a	b	u	s	i	v	e		a			h
a	u	t	o	s		g		r		a	b	b	o	t	
l		i		t		i	r	e		k		b			e
s	a	l	i	e	n	t			r	e	s	c	i	n	d

gridCOMMENTS

Grads, pledge to the Pink Tie

What? Abusing my position here to vamp up the Pink Tie Pledge? Sorry, it's just because I finished pledging today, and all the grads should pledge! On to *gridCOMMENTS*!

Thank you, wonderful people! There were 11 submissions this issue! Is this to make up for the last two issues? Well, if so, you all rule! Given the lack of cryptic *gridWORD* this term, and the lack of submissions over the last two issues, we are awarding **THREE** prizes this issue. So congratulations to the following submitters ("If you were the *gridWORD* what would you do?"):

- Adam Weatherhead ("Well, that's an easy question to answer. If I were the *gridWORD*, I would always be too hard for people to solve, so that I never have to give up my C&D gift certificates. I would then hoard them until I had amassed a quantity capable of letting me purchase enough food from the C&D to stock my secret underground bunker-lair, where I would go to launch my surprise attack on the nations of the world, and where I could wait out the nuclear winter that would inevitably result from said nations' futile retaliatory efforts. Of course, it goes without saying that I would take the ConMaster with me, because I'll need someone to create new *gridWORDS* to repopulate the world in my image, *gridWORDS* that I may rule over with a benign yet iron fist of doom! Plus, I really wouldn't want her to get nuked. ;)")
- Simon Forsyth ("Rejoice at once more having entries.")
- e ("I would keep the \$5 gift certificate")

Thanks to everyone else who submitted: Abby Higgins ("I would be purple and sparkly and play "Word up" by Cameo if you got the clues all right or I make a picture of a happy smiling circle with my black and white squares to scare all the Gnimphobes out there. Whoa hahahahaha....(semi evil laugh) depends on my mood really. ~Hugs and Penguins!"); Nantig Yang and Jia Jiang ("hack dictionary.com so people can't cheat on me. The betrayal!"); Anthony Larocque ("start a cult devoted to the divine mysteries of crosswords."); Daly Chang ("If I were the *gridWORD*, I'd play Scrabble."); Jenn Smith ("I would walk into the comfy wearing something more revealing than a full-body parka. Then lots of people would do me!"); Douglas Stebila ("Change my name to an unpronounceable *gridHIEROGLYPH*."); Samir, Sam L., and Natalie O.; Brandon Wilkinson.

And without further ado, I present this issue's *gridWORD*. Remember to submit your solutions to the **BLACK BOX** or to jkleinge@uwaterloo.ca. And remember to answer the following *gridQUESTION* as a tie breaker: *Where do you wear your hat?*

Until next time!

ConMaster



Conventional

ACROSS

1. to run naked in public
4. frank admission
10. graduates
11. market
12. decayed mixture
16. type of shell
17. make into law
18. person seeking employment
19. vendor's vehicle
20. framework shelving
22. 2005 natural disaster
24. burst in intense flame
26. venomous teeth
28. in fact
32. come to a place
33. worm-like larva
34. broad neck scarves
35. stretchable leg garments

DOWN

2. exotic bird
3. type of acid
5. strange radiating auras
6. spiny tree
7. desire to harm others
8. frog hop
9. religious pamphlets
12. rapid smalltalk
13. Castro's atlas
14. folded paper art
15. frighten to an extreme
21. crocheted blanket
23. intelligent and observant
25. worries
27. nothing
29. pop out
30. tardy
31. rhythms

