math NEWS

THE DIAMOND CLUB
Friday, October 26, 1984
mathSOC presents a
roadtrip to Toronto's hottest dance bar

tickets available in mathSOC

(dress code in effect) $8.00 (bus & cover)

buses leave MC at 8:00 pm   leave club at 1:30 am

Help Wanted

mathNEWS requires someone to help with distribution. This position entails being up early (around MC by 8-8:30) on Tuesday and Friday mornings. Carrying boxes full of paper is also involved, but the remainder of the work is very easy.

We also need people, or other sentient and non-sentient beings, to contribute to our publication. If you are capable of writing interesting, informative, or large articles, or if you can draw, design crossword or other puzzles, or generally do anything that can be included in a paper, please contribute to the hungry black box outside the MC smoking lounge. We publish weekly, so your contribution (or classified) will be seen by roughly 1500 people about a week later.

Anyone interested in helping with production or distribution should show up in MC3038 between 7 and midnight on Monday, or drop us a note.

Thank you,
mathNEWS

The Institute for Computer Research

The new Institute for Computer Research that everyone has been waiting for will replace the parking lot behind the Math building. It will, for a miniscule $46.6 million, provide 190,000 net square feet of badly needed floor space as early as late summer 1986 (i.e. just about the time Fed Hall opens). It will be called the William G. Davis Computer Research Centre

Terrific! What will likely be the most significant building on campus (with the possible exception of North Five) will be given another typically dull name. Why not the Kenneth D. Fryer Computer Research Centre? This is perhaps the best name we've come across so far.

The second best name seems to be the Harry F. Davis Home For Mentally Retarded Squirrels. As if to motivate this name, it has been revealed that the building will have a security system which requires people to raise their hand and say "here" *at the same time* before they will be allowed to enter. Certain restricted areas have additional security devices which allow admission only when the individual recites the theorem of uniform convergence of a sequence of functions. Furthermore, initial design plans include space specifically allotted for students who bring their knitting, and a mail room which only receives anonymous letters.
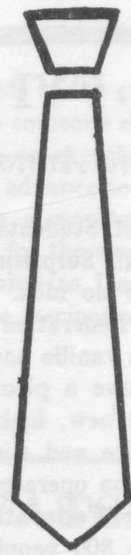
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(Vainamoinen adds "Why not a William G. Davis Portable Classroom too??")

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mathSOC and SciSOC present
The Late Show
Road trip
Niagara Falls, New York   Friday Nov. 2nd.
$10.00 includes bus and cover
(buses leave MC at 6:00 pm)

Volume 36 Number 5

October 26, 1984

FYI

An Unpaid Announcement

Your Federation of Students—do you know exactly how we are serving you? Surprisingly the majority of students on campus have no idea. They don't know that **Scoops** is run by the Federation and has recently introduced soft ice cream in vanilla and chocolate. They don't know that the Feds have a **photocopying service** and have just purchased a new, high-quality machine which does everything but dice and slice carrots. They might know that the Federation operates the **Bombshelter** and has just built a new pub, **Federation Hall** (well almost...), which will serve up to 800 people and host live groups. They probably would like to know that the Federation runs various free counselling services, namely the **Legal Resources Office, The Birth Control Centre,** the **Women's Commission, PEERS,** and **The Ombudsman** (all located on the intermediate level of the CC). They should know that, located in the lower level of the CC, are the **Record Store, Campus Shop** (leather U of W jackets, Wloo sweats and packs, etc.), the **Post Office,** the **Used Bookstore** (texts in good condition for a fraction of their worth) and the **Classical Record Library** (at the back of the Used Bookstore).

What else about the Federation should they know? How about that every Fri., Sat., and Sun. night a feature film is shown in Arts Lecture Hall (Fed Flix) for only a dollar; that the Feds operate WORDS, a word processing service and will handle resumes, essays and letters at competitive prices; that the Feds even operate a **Student Garage** in co-operation with the N-gneers.

Furthermore, I'm sure students would be interested to know that **Student Loans and Bursaries** are available from the Federation and the Feds provide inexpensive **charter flights** through their membership in A.O.S.C.; that the Feds will soon be accepting major credit cards at all of their retail stores; the Feds have installed a **Fed Free Fone** for local calls and finally, that information on all of the Federation services is available at the Fed Office, Room 235 in the CC.

Kathryn Seymour
Board of Communications
Federation of Students

Genders

Not long ago, two people were conversing about the genders of many things. The conversation then progressed to the discussion of humans. Then one of the two (J.R.) declared,

"Wait a minute! Humans don't have gender, they have sex." A most memorable quote!

The Eavesdropper

LookAhead

A glance at upcoming events

Math Events	
Oct. 26	Diamond Club Road Trip
Nov. 2	Late Show Road Trip
Nov. 10	Mathsoc Wine & Cheese !
Nov. 18	Grey Cup Party (Fed Hall!)

Fed Flicks	
8 pm. in AL116 Cost: $1 feds, $2 others	
Oct. 26-28 *Testament*	
Nov. 2-4 *Top Secret*	

Cinema Gratis	
starts 9:30 pm. in the CC	
Oct. 31 *The Birds, Omen,*	
Village of The Damned, Dracula	
Nov. 7 *Marathon Man*	

Computers in Education Brown-Bag Seminars	
All lectures at 12:30 - 1:30 in CPH 3385	
Oct. 29 Using Computers for Intelligent Systems Analysis	
Nov. 5 Personal Computers for Process Control	

mathNEWS dates	
Oct. 28 mathNEWS *articles deadline*	
Oct. 29 mathNEWS *production night, MC3038.*	
Nov. 2 *Next* mathNEWS *available*	

UW Arts Centre	
Call Humanities Theatre Box Office at 885.4280 for more info	
Oct. 26,27 The Nylons	
Oct. 26,27,30-Nov. 7 *Fishing*	
Oct. 28 The Resurrection Band	
Oct. 30 *Mephisto* (film)	
Oct. 31-Nov.1 Hagey Lectures	
Nov. 2 Five Good Reasons to Laugh	
Nov. 3 Potato People	

DCS Courses	
Free! One to three one-hour lectures; contact DCS to register.	
Oct 29, 30, 31 *Unix for Document Preparation*	
Nov. 5,7,8 CMS Part I	
Nov 12,13,15 Introductory GML	

For Co-ops Only	
Nov. 8	Pick up job ranking forms.
Nov. 9	Interviews end.
Nov. 9	Ranking forms due.
Nov. 20	Placement Results posted

Bookstore Sale!

The Bookstore will be holding a special sale of Springer-Verlag mathematics texts. The sale starts Monday, October 29th and will continue "while supplies last". Pick up your copy Hungerford's "Algebra" today! (Or Monday, rather.)

Autumn

Indian Summer

Along the line of smoky hills
The crimson forest stands,
And all the day the blue-jay calls
Throughout the autumn lands.

Now by the brook the maple leans
With all his glory spread,
And all the sumachs on the hills
Have turned their green to red.

Now by great marshes wrap't in mist
Or past some river's mouth,
Throughout the long, still autumn day
Wild birds are flying south.

W.W.Campbell

It is the time of year, again, when the changes in our lives seem to be reflected in the turning of the leaves.

It is the time of year when cats change homes, the new car models appear, cottages are closed up and baseball is forgotten for a few months. Here at school we are more likely to be intent on studying for midterms (lots of good intention, but not much studying) or getting our heavy jackets and boots sent from home or trying to remember not to leave the house without an umbrella. Just like the squirrels, we are all preparing for winter.

I find, this time of year, that the whole atmosphere is unsettling; even the whether is bitterly cold, the next sunny as a summer's day and on the third it pisses rain.

This year, however, fall reminds me that there are bigger changes afoot. In a few short months I must say goodbye to this place which has really been my home for the past five years. The feelings are mixed, but deeply felt.

After five years there is hardly a square foot of the math building that doesn't hold some memory. The happy times and the frustrating times are all about me like ghosts.

The memories blur. That great Hallowe'en party in VI, was it two years ago or four? I don't care to count the number of terms I actually spent in village or how many volumes of mathNEWS I've been involved in. I have ventured to count the number of times I've moved in my five years in co-op. After 20 moves I still detest packing.

Will I miss it? Yes, but, God, it's been a long five years. And the work—well, after this long it's hard to keep up the pace. Mostly I think I'll miss: the parties, the freedom, the green campus in summer, the geese in the fall, the ice-cream in the middle of winter, the easy going atmosphere, the donuts, the friendly faces and the chance to rub shoulders with people much smarter than I'll ever be. I'll miss the intensity of it all!

These past few years have really been quite a journey. I'm no longer a wide-eyed exuberant frosh. In fact, they seem to me to be younger and more infantile every year.

Did I really organize raids to the guys' floor at 3:00 a.m. in first year? It seems like someone else now.

We must all move on eventually. With our resumes and degrees in hand we advance to meet the world.

All in all it's been a wonderfully awful time and I wouldn't have missed it for the world. I shall endeavour to keep this thought in mind as I screw up my courage to make yet another in the fascinating series of changes that are my life.

J.A.Roberts

WATSFIC Tournament Results

On the weekend of October 5th and 6th WATSFIC held this term's AD&D tournament. As tourneys go this one was a success even though it was held on Thanksgiving weekend. It was held at Wilfrid Laurier in conjunction with the WLU Science Fiction Club (WLUSFC) The two clubs held a science fiction convention on the weekend with the author George R. R. Martin (author of *The Sand Kings* and several other novels) attending (the reason the convention was on Thanksgiving weekend).

On Friday October 5 we held a screening of the movie "Dark Star", an SF and Fantasy discussion, and the first round of the Tournament. On Saturday October 6, we held round one for the teams not there on Friday and round two Saturday evening. There were also papers and a fascinating panel discussion on SF and Fantasy literature works with George R R Martin as the guest speaker.

There were twelve teams registered in the tournament and over one hundred people at the convention. The *Green Gryphons*, consisting of John Erb, David Martineau, Trevor Dayman, Ed Simons, Chris Herboth, and Rick Kuzell [editorial raised eyebrows (not dan's)], finished in first place. And *Who Cares* about *ABCDE*, who finished second and third, respectively.

A special note on the role-playing awards; John Erb (of GG) did an excellent job with the paladin, Ernest, Laura Scott (of ABCDE) was great with the thief, Quinn, and we had a young hobbit named Evans McManame role-play the cleric Revilo with surprising skill considering that he's around eight years old. Chris Herboth (of GG) won the role-playing award for Bert and somebody on *Who Cares* won the award for Prin (and We really do care who you are!).

For those of you who are interested copies of the Tournament are available at WATSFIC. Also, there will be an end of term Games Day on Friday November 30, 1984. Details will be posted later as to time and place. Games Day tends to be a nice break before some interesting quizzes (:-)) !?!

Rick Kuzell,
WATSFIC Secretary of War

Uditorial Crossis

A Scenario

It was a Wednesday evening, and in a dimly-lit room somewhere on campus, the editor of a prestigious weekly gather his Staff around him.

"This page four problem ... it's just not right. I can't do it ..."

"May I suggest, Captain, that we find something to fill that conspicuous blank space below the heading 'Just What We Thought They Said'. Something from **math-NEWS** perhaps—"

"Jim! You can't do it! It's just not human! What's happening to you??" "Bones ... we'll just have to take Stalk's suggestion. Printing Room: Mr. Snott?"

(*disembodied voice*) "Yes Cap'n."

"Rerun page four, with the mN article, warp factor six."

"But Captain, the presses canna' take warp six—A'm only holdin' them together as it is."

"Orders are orders, Snotty!"

"Jim!"	"Jim!"
"Bones!"	"Snott!"
"Stalk!"	"Stalk!"
"Bones!"	"Jim!"

(fade to black)

The Music Lecture!
Dr. Ernie:

You can play a song for anyone, and they will tell you whether or not they like it. We are all very opinionated with regards to music (and that is an understatement). Well I am not here to tell you that the **Talking Heads** are the best thing since sliced bread, nor that only the mentally defective listen to **Judas Priest**. I merely want you to wake up, sit up straight, and pay attention!

Music is a subjective experience. It can only be described objectively, however; and therefore, there should be musical standards to which all songs could be compared.

Now, this is not an easy concept to accept. Yet, look at gymnastics; this is rated on an objective scale. Clearly, it is possible to rate a guitar player. The guitarists skill level is easy to rate, and the feeling that he brings to his playing is only slightly more difficult to rate. After all, it is only necessary to compare him to other demands upon each are also different.

A similar rating system would be implemented for all instruments and singers. This system would not only apply to Rock music, but Country and Classical and any others would also be rated.

The next step is to rate the song. The performance of the song will be judged using guidelines similar to those above. There should actually be two ratings: one with the skill of the musicians taken into account and one without. The actual song writing is harder to judge; however, it can be compared with other songs and guidelines could be written to assist in the rating.

In a system like this, awards will really have meaning. The people who complain that popularity is all hype will be proved wrong. You will be virtually assured of liking the music played on the radio station. In short, a new golden age will have come about.

Or will it? For a while, this even sounds reasonable. After all, it offers an opportunity to vindicate our tastes in music. We can prove that **The Stewed Prunes** really are the best thing since the **Beatles**. Yet all is not peaches and cream. Any similar system that rates music will, inevitably, lead to the stifling of all creative music. All the airwaves will be taken up with endless cycles of redundant, perfect, formula music. Radio will resemble television. All songs will be written to formulas, and creativity will be stifled for money and ratings.

Damn! This is not a good idea. And yet, they do rate gymnastics, and figure skating, and acting?

Thank you, and goodbye!
Dr. Ernie

JabbermathNEWS

'Twas Monday, and the **mathNEWS** crew
  Did type and edit in MC.
Enormous was the printer queue
  And the writers were three.

"Beware the editor, my son,
  The knives that cut, the eyes that seek.
Beware the pizza, free, and shun,
  The devious long-haired freak."

He took his Volker-Craig in hand,
  Long time the article he sought.
So rested he by the C & D,
  And stood awhile in thought.

And as in sluggish thought he stood,
  The article, in words of flame,
Came suddenly, with its grammar good,
  All written in his brain!

One-two, one-two, he typed it through,
  The 404 went snick-
          er-
            snack.
He went below, and got I-O
  And came rebounding back.

"And hast thou writt'n an article?
  Come type some more, my dearest friend.
Oh frabjous night! He spelt it right!"
  He sang until his end.

'Twas Tuesday, and the **mathNEWS** crew
  Still typed and argued in MC.
Unmoving was the printer queue,
  And the writers did flee.   Our apologies to C.L.D.

Frosh Humour

In a zealous attempt to teach their students how to use the revered IBM PC,s, the tutors of cs180 had their students write them letters. Some wrote in response to a letter written by the tutors on behalf of the students. This letter follows:

Dear omniscient, omnipotent, godlike tutors:

I (your name goes here) insignificant moronic frosh, unworthy to grovel in your exalted presence, hereby admit I lack the imagination of an amoeba and pledge my eternal service to you (the only non-frosh that will talk to me) and to bring you coffee, donuts, fresh fruit (corn on the cob is a good choice) and attractive (wealthy) members of the opposite sex. Ellen and Sam like blondes, Carlo likes petite redheads, and Jill likes the ever popular tall, dark, and handsome. (broad shoulders is a plus).

I will not offer money or alcohol as that would be construed as a bribe.

yours humbly (your name goes here)

[*I would like to mention that Calculus TA's do not construe money, alcohol, or anything else, as bribes, but see them as a natural part of the educational process.*]

Dear Elly, how nice it has been meeting you. I would like to comment on the letter that was listed under the file 'letter'. Well...to start off with, I didn't find it the least bit humorous. In fact, not only was this tactless piece of literature unfriendly, but it was an unhealthy catalyst for an unnecessary feeling of segregation between the students and the tutors. This letter was a very irresponsible venture on your part and if you attempt anything equally fascist in the future, you will likely find yourself in one of the following irritating situations:

1) Standing in a mice-olympic festival without your bathrobe.

2) Wandering helpless among millions of petunias discussing rainfall and such tedious occurrences.

3) In a small paddle boat in the middle of a killer-duck pond with only a toothbrush to use as a paddle.

4) Sinking slowly in a huge glass jar filled with strawberry jam.

5) Grasping desperately at your cute little black tie as it strangles you while singing 'Where do the toads go...'.

Or... if you're really bad:

6) Teaching some dumb frosh how to use COBOL. Heh heh heh! (evil laugh)

Yours lovingly,
L.M. Muffit

I, S. Batt, superior, intelligent frosh, worthy to stand tall in your exalted prescence, hereby observe that you lack the imagination of an amoeba and pledge my dirty socks to you (the only non-frosh that deserve them) and to bring you pain, suffering, failing marks, (an F in CS 342 is a good choice) and attractive members of the same sex. Ellen and Sam get redheads, Carlo gets large brunettes, and Jill gets the never popular short, blond, and gruesome (no shoulders are a plus).

I will not offer money or alcohol as I need all that I can get for myself.

yours superiorly;
Steven M. Batt

Dear Ellen:

Please excuss my tiping errors as I am a visa student new to this Canada.I reely like it hear and I hope I can do good in this course because if I don't my father will take me back to the home country.It is so very' good hear that I don't want to must be sent back.I thought ther may be a' prublem with the english proficiency test but some good friend I met in the residence wrote two essehs in the allotted time and gave me one because I promised him my little sister.Which brings me to my point, dear tutor, for I have another sister who very very pretty, and for Ellen and Jill, well, ther is always me...Mistah Beefcake!

(That wasn't that funny...)

cordially yours, MO.

P.S. I never get less than 87%

ATTENTION: All Computing Science Teaching Assistants, and Sam.
Subject: Recent Infestation of Frosh in Math Building
Comment: Please remember to keep facilities sanitary in computer rooms. There has been a recent infestation of first-year students which have attacked the system, chewing on power cords, writing silly letters, forgetting where the return key is and generally being bad. Experts predict that this latest spawn of degenerates could be even worse than the dust storms of the thirties, the Irish potato famine and the 1983 crop of engineers all combined.

If all residents of the Math building take appropriate action, this crisis can be terminated. Also do not forget to lock rooms at night as this is a well known breeding ground for those destined for the married student dormitories. Also, travel by bicycle on the university grounds is not recommended for the duration of the infestation, and remember to lock your doors when driving alone.

That is all,
R. AARON PALMER
DIRECTOR, ANKLE-
BITER INFESTATION
ACTION COMMITTEE

Strategies and Gambling

Are you planning to go to Las Vegas or Monte Carlo to try to win next year's tuition? Well, if you are, make sure that among all the things that you pack, this issue of mathNEWS is included.

At any gambling casino there are many different games to try such as roulette, poker, and craps. At these games some people win and some lose but on average more people lose than win. Although the odds are normally in the house's favour, wouldn't it be nice if somehow they could be altered to be in your favour. There are many such "systems" that claim to be able to do this. An example of such a system is the Martingale roulette system. This involves betting an initial amount, say for convenience $1, on the even chances (i.e. if you win you will get double of whatever you had bet e.g. bet $1, win, and get $2). If you lose the bet, then bet $2, and if you lose again you bet $4. In other words, whenever you lose, you double your previous bet, and when you finally win, you will end up ahead whatever your initial bet was. Thus, in this example, if you won after n bets, then you have won $2 \cdot 2^{n-1} = 2^n$ dollars and have put up $1+2+4+...+2^{n-1} = \$(2^n - 1)$. Thus, the player has ended up being $1 richer. In general, if you had bet $A at first, winning after n bets means that you have gained 2^n A and have lost $\$(2^n - 1)A$, thus ending up $A ahead.

Unfortunately, life is not so simple. There are a number of problems with the above system. First of all, the player requires to be able to put in $\$(2^n - 1)A$ since most gambling casinos will not allow the player to continue if he has run out of money and credit. Since n can be any positive integer, you will need an infinite amount money to be assured of winning (but if you an infinite amount of money why would you be gambling, or for that matter even reading this mathNEWS). Also, it assumes that you can make arbitrarily small or large bets. However, in real life, gambling casinos have maximum and minimum limits on the amount that can be bet. Thus, the player has to start with at least the minimum bet, and if he doesn't win by the time that the bets have reached the maximum then he has lost everything that he has bet to that point.

Let us suppose that the minimum bet is $10, the maximum is $12,000, and the probability of winning is 17/37. Using the Martingale, to have the largest possible number of bets before the maximum is reached, then the minimum should be bet at first. Therefore $10 will be bet, and if need be then $20, $40, ..., $10,240. This allows up to 11 bets before the maximum is reached. If the player has not won by then, he has lost $(2^{11}-1)10 = $20,470.

What is his expectation using the Martingale system as opposed to random betting? Expectation is just what the player can expect to win or lose on average. If it is a positive quantity, then in the long run he can expect to make money, although in the short run he can lose money or even go bankrupt. If the expectation is zero then in the long run he won't win or lose money, and if it is negative then he can expect to lose money in the long run. More formally, we have that expectation is defined as $E(X) = \sum x f(x)$ where f(x) is the probability that x will occur.

Let us suppose that we play the Martingale n times where n is a large integer, and assume that the person has sufficient resources so as not to go bankrupt.

Out of these n times, we can expect that about $(17/37)n$ of these times the player will win on the first bet and the Martingale will end. Thus, he has ended being $10 ahead for each of these $(17/37)n$ times that he won. He will end up being $10(17/37)n$ ahead from this. Similarly, the cases where the player wins on the second bet will cause him to be $10(20/37)(17/37)n$ ahead. The same analysis can be used up to the player winning on the 11th bet. There are, however, about $(20/37)$ n times when he will lose 11 times in a row (I won't bother showing all the calculations). In these cases, he will lose $20,470 giving a total loss of $20,470(20/37)^{11}$ n.

Thus, in total (adding up the gains and subtracting the losses) the net gain is - $13.574n. Thus, maybe surprisingly, in the long run, the player can expect to lose money.

But how much money in total was bet? Adding up all the bets we get that $10(17/37)n$ was bet in all the times that the person won on the first bet, $30(20/37)(17/37)n$ was bet in all the times that the person won on the second bet (the 30 comes from 10 plus 20), and so on. When all these values are added up, the total amount bet was $167.42n. Thus, per dollar, the player has lost $13.574n/167.42n = .081 = 8.1\%$ of whatever he has bet. If the player had instead decided to bet $A all at once, his expectation is $A(17/37) + (-A)(20/37) = -.081A$ or - 8.1% of the bet. Thus, as can be seen, on average the player will lose 8.1% of whatever he bets, regardless of in what order or amounts that the bets are in.

Another, perhaps easier (at least in terms of writing) way of seeing this is if the player makes n bets, $X_1, X_2, ..., X_n$, where each X_i can be of any size, then $E(X_1 + X_2 + \cdots X_n) = E(X_1) + E(X_2) + \cdots + E(X_n)$ Now, the expectation of each single bet X_i is $-X_i \frac{20}{37} + X_i \frac{17}{37} = -.081X_i$. Therefore, $E(X_1 + X_2 + ... + X_n) = -.081(X_1 + X_2 + ... + X_n)$. Thus, the expected values of the n bets is just -8.1% of the sum of those bets as was concluded above.

However, notice that the probabilty of losing the Martingale (i.e. losing $20,470) is $(20/37)^{11} = .001151$. Therefore the probability of winning $10 is $1 - .001151 = .99885$. Thus, although the system doesn't change the expectation, it does make a small win very likely and a large loss very unlikely. In other words, the Martingale is like a form of insurance policy. At best, this is the most that any system will do. By varying the progression, one can change the probabilities and amounts of the wins and losses to almost anything but with the expectation still being the same.

How does the probability of winning $20,470 with the Martingale compare with just betting the whole amount at once. With the Martingale, the probability of winning this is less than $(.99885)^{2047} = .0946$ (i.e. 2047 wins of $10), while the probabilty of winning it by betting $20,470 at

Could this be one of your profs?

A mathematics professor is busy demonstating a very complex proof to his students, furiously chalking the blackboard with equations.

"As you see, it is obvious that step G follows from step F." The professor begins writing again.

"But professor," calls out a student, "is it obvious?" The professor looks at his work for a moment, and suddenly shuffles over to another blackboard and starts writing new equations with equal vigour. Half an hour later he turns to his class and says, "Yes it is obvious".

Three people are stranded on a desert island: a physicist, an engineer, and a mathematician. They have three cans of beer. The physicist finds two sticks, builds a fire, suspends the can over it, waits for the can to explode, and drinks. The engineer finds a rock, and then a harder rock, forms a chisel, aims it at just the right angle, opens the can, and drinks.

The mathematician assumes his can is open and drinks.

A statistician, a philosospher and physicist go to Scotland. While taking a train through the countryside, they see a black sheep grazing.

"Interesting," says the physicist, "in Scotland sheep are black".

"Oh, no," replies the statistician, " in Scotland there is one black sheep".

"Wrong again," says the philosopher, "all you can say for certain is that in Scotland, there is at least one sheep with one black side."

Once, in an old Indian principality, there lived a court philosopher who declared that all the world was an illusion. Action was useless, said he, for we live in a dream.

The local Maharaja, a man of a more practical frame of mind, spotted the wise man slumbering under a tree in the royal estate. Swiftly the prince sent for a battle elephant, and sent it charging at the philosopher. At the sound of the thundering footsteps, the philosopher awoke and scampered away like a rabbit. The next day the Maharaja took him to task.

"If the world is an illusion, why did you run?"

"Did I run?" replied the philosopher

Two philosophical behoviourists meet in the street. One says to the other, "You are fine, how am I?"

Dear Sammy

I just thought I'd notify you about my intention to blow up the computer building. Since my arrival here, I have come to despise this building. I should warn you not to try to stop me. I have taken Prof. Dirksen hostage. At this minute he is bound and gagged with a huge pink tie. Your only option in saving this building would be to immediately grant me a CS degree and land me a megabuck job as far away from this building as possible.

I await your reply.

WILMA FLINTSTONE.

once is 17/37 = .459. The reason why the probability is so much higher by betting it all at once is that with the Martingale system, on average, several times $20,470 needs to be bet to win $20,470. Since the expectation is negative, the more money that is bet means that the lower the expectation and thus the lower the probability of winning a positive (i.e. $20,470) quantity. The moral of this is that if you want to win a certain amount of money, your chances are reduced if you play the Martingale as opposed to just betting the amount.

In summary, there is no way to beat the odds at the gambling casinos if random chance is the only factor involved. With so many people trying so many different systems and with the the casinos operating with such a small margin of profit, any even small deviation from random chance in favour of the gamblers would have bankrupted the casinos. Thus, if you do go gambling, don't expect to win much, if anything. Think about how much you are willing to lose, take this money and have fun, perhaps trying out some systems of your own. Whatever you do, don't sink too much money into gambling. After all, you wouldn't want to lose next year's tuition and then not be able to attend this great university.

Igor

The Razors edge

The Razors Edge is a World War one movie starring Bill Murray. In this movie Bill Murray plays the part of Larry Darrel, a high school or college graduate who volunteers to go off and help the Allies in Europe as an ambulance driver. He leaves the US as a nice innocent young adult (like most of us who have never experienced war) and enters the front line trenches of World War one. He quickly learns the rules of survival and has the infinite privilege of seeing his friends die. He then returns to the US with all his previous values shaken and begins to search for himself...

Bill Murray does an excellent job acting in a serious role and his skill as a comedian adds a humorous flavour. If Richard Burton does not win an Oscar for dying then Bill Murray will win one for his role in this movie. I found the plot well written and capable of winning the award for best picture or something like that. Murray has proved himself capable of handling a serious role and this will add a new dimension to his acting career. The movie is playing at Fairview Mall and is well worth the four dollars and bus trip. Playing times are 7:00 and 9:10 daily.

Dear Sam,

I represent an international relief Agency known as Save The Coathangers. Our agency is involved with the welfare of abused coathangers in North America as well as in Europe. Many of the insensitive population laugh in ignorance when they hear about our agency, but that is only because they have never stopped to study the injustices done unto coathangers. To enlighten you, our staff has prepared a report on the daily life of a coathanger.

The day for a coathanger, we'll call this one Herbie, dawns after an uncomfortable night supporting some enormous, heavy, genuine-artificial fur coat. Of course no thanks is given to Herbie after his hours of dedicated service, instead the coat is cruelly ripped off his already aching shoulders. His misery is not over yet.

Just as he manages to fall into a fitful sleep, he is rudely awakened by the neighbourhood children (miserable brats) playing hide and seek. One snivelling terror streaks into the closet, crashing into poor innocent Herbie and maiming him for life. He cries out in pain, but no one listens to him. Herbie is left, injured on the ground. He lies there for hours, but the passing of time escapes him as he slips in and out of consciousness. He stirs as heavy footsteps come across to the closet. It is the man of the house, fuming angrily. He has locked the keys in the car. Herbie shrinks back in terror as the man grasps him by the neck and wrenches him apart. Herbie has been murdered. There is no justice for Herbie, no one to fight for him.

That is until we came along.

Your donation to bring justice to coathangers is essential to keep our agency running. Your tax deductible donations can be sent to Save The Coathangers c/o Mary Kelly (her address was here at one time).

Thank you very much for your time and money.

Sincerely yours,
Mary Kelly.

Everyday I sit in class and think of just one word:
I-N-T-E-G-R-A-T-I-O-N
Integration! Integration!
It's the only process which I know to do
I-N-T-E-G-R-A-T-I-O-N

(*Sung to the 'Mickey Mouse' theme*)

Two Problems:

1) To put out the fire, given a hydrant, a disconnected hose, and a house on fire.
Solution: Connect hose and squirt house.

2) To put out the fire, given a hydrant, a disconnected hose, and a house not on fire.
Solution: Set fire to house, therby reducing to previous problem.

Real Numbers Don't Eat Quiche

A formal proof of the obvious

Axiom We all know that real numbers are either rational or irrational. Take any $x \in \mathbf{R}$.

Case 1 x is rational
Then $x = \dfrac{p}{q}$ for $p,q \in \mathbf{Z}$, $q \neq 0$. Now $q < quiche$ (as can be seen from any dictionary) Hence q cannot eat quiche, because it's a lesser being
If p eats *quiche* then q, then non-quiche-eater, will prevail since $p < q$ (as above).
If p doesn't eat quiche we are done, since two non-quiche eaters will not eat quiche when put together.
Therefore x does not eat quiche.

Case 2 x is irrational.
$$x \cdot \frac{1}{x} = \frac{1}{1}$$
Now the RHS does not eat quiche, by above, hence at least one of x, $1/x$ does not eat quiche. If x does not, we are done. If $1/x$ does not eat quiche, then repeat the above for $y = \dfrac{1}{x}$ and then if $1/y$ does not eat quiche then $x = \dfrac{1}{y}$ does not, either.

QED

From the Warped Mind of The DHD

And now,...the Masthead!

Well, for a change, nobody remembered to tell Jane about production night, so we all could agree quickly on what pizza we wanted. It took us half an hour to figure this out, anyway. Thanks to everybody who showed up to production night. Thanks to Watts (spectator), dAN (typing), Anne (cover layoute with e ane'é), Barb (proofreading, not running off with the Mr Potato Head salesman), John (lots, including typing, proofreading, and layout), Sam (typing, layout, soliciting contributions), Kevin (typing, layout), Rick (typing, layout) and Tom (assistant editing, troubleshooting, decision making).

I'd also like to thank everybody who contributed to this issue. Without them, we would never have managed an 8 page issue this term. Thanks to Blake (Road Trip Ads), Igor (Statistics of Gambling), Jane (Autumn), Rick (WATSFIC), Kathryn Seymour (boredom...yawn), George Elliott Clarke (for mangling our article in impRInt!), Dr. Ernie (music), Dirk (movie), Vainamoinen (a comment), MathSoc (lots of stuff), the Eavesdropper (SEX!), the Warped Mind of the DHD (erroneous proof), all of the CS180 T.A.'s (Sam, Ellen, Carlo, and Jill) and students (too many to count). The CS180 students have now shown they have some talent; put it to work writing articles for mathNEWS. Many thanks to all. We hope Sam will show up again sometime, and maybe some of his students. Students who I mark are advised that helping with mathNEWS can raise your marks, as well as gaining you fame and glory. And I still can't spin a pen!

Alfred Ed. Carp... von Newman