

## Deadringer Report

The Math Deadringers finally broke the goose egg by churning the Creme de la Chem by the score of 8 to 4 . After suffering two consecutive losses, 4-1 to the Ducks and 4-2 to Dynamech, the Ringers found their old winning form in this outing.

The Deadringers got off to a fast start with John Mooney potting the first goal. Several minutes later, Armand Chiasson, wandering from his defensive position, banged in a rebound to boost the lead to two markers. The Ringers kept the pressure on, resulting in a pair of goals by Jim Dagg and a single by Brent Mooney. Unfortunately, the opposition turned into sour Creme de la Chem, with some very chippy play. The half ended with the Ringers leading 5 to 1 .

In the second half, the tempo of the game slowed down, both teams showing signs of fatigue. Brent blasted in two more tallies with Jim adding one for both their hat tricks. Creme managed three late goals against Ringer goalie Bob Thorn, but the issue was already decided.

The three stars as selected by Floor Hockey Night in Canada were: Kelvin Martin, Mike Murphy and Charles Sisson.

The Ringers' next game is the week of June 15 th against the Oldtimers. The following Monday, June 22nd, the Ringers will tangle with Mechanical Advantage, $8: 45 \mathrm{p} . \mathrm{m}$. at Seagram's Stadium.
M. Adringer

## Volume 26, Number 3 June 19, 1981

## WATSFIC News

On May 13th WATSFIC elected its executive for this term, consisting of David Sweeney (President), James Nicoll (Treasurer), Joe Supple (Secretary) and Jim 'Klingon' Stevenson (Secretary of War). The schedule of meetings for this term is as follows:

> June 16 (Tuesday) June 24 (Wednesday) June 30 (Tuesday) July 8 (Wednesday) July 14 (Tuesday) July 22 (Wednesday) July 28 (Tuesday)

Further information may be obtained by visiting the WATSFIC office.

## Social Director's Report

This is an extremely short report (it might only rate as a rep). Anyhow, for what it's worth, this is supposed to fill you in on what's been happening and what's going to be happening in the coming term. Of course the term's half over but no matter.

So far this term we've had a pub. Don't knock it. According to the files it was the biggest summer pub in a long time. So for any of you that didn't "Come to your census" and didn't "Count Yourself In" you missed a really good time. We almost made some money for future pubs!!!!!!

Speaking of the future, I'm not too sure how much of a future mathSOC social events have. There's been a mathWEEK tentatively planned for the last week of June (June 29 to July 4) but plans aren't really going too well. What we need is a social committee; right now our social committee consists of three people - me, myself and I. So if anyone's interested in getting a mathWEEK going this term (or helping organize froshWEEK) drop into the office (we don't bite) and see me if I'm in or leave your name and number and I'll get back to you (especially if you're male). We really need help.

A bit more on the positive side, for all of you that were such great fans of the pi buttons (so great that I couldn't even get one myself) - mathSOC proudly presents the pi t-shirt!!!!! (loud cheers!!!!! applause!!! banners waving!!!!! (I think you get the picture)). They'll go on sale about June 29 (with or without a mathWEEK) and we haven't settled on a price yet but I can promise that it'll not be greater than the number of possible Rubik's cube combinations. It will in fact be under five dollars. Judging from the popularity of pi buttons and the low cost of the $t$-shirts these shirts will probably go fast, so you had better come early on June 29 and get yours.

On the encouragement side (again), we need input. We can't plan events that you'll enjoy unless you tell us what you want (no four letter suggestions please!!!!!). Drop a note in the mathNEWS black box or come in and see us (us being mathSOC.....very friendly folks). We are, after all, YOUR society!!!!!
tracey


1 mc

## Galumphing Gourmets

Marbles Restaurant 8 William Street East, Waterloo.

Hidden away on William Street, behind a flashy Donut Castle, this salad and hamburger place is one of the best we have found in its class. Hamburgers are available in a variety of services, and they are cooked to order. It really is possible to get a rare hamburger here. In this case, rare means "hot red center". Most of the burgers on the menu are served with a sesame roll and french fries.

For something different, there is a weight watcher's plate with no roll and no fries. This plate comes with cottage cheese and a bran muffin, instead.

Salads are a specialty of the house. Spinach is used in salads unless you specify romaine lettuce in its place. We prefer the caesar with romaine and the whole earth salad with spinach. All the leafy salads come in regular or 'meal-in-itself' portions. If all you want is a salad, then by all means go for the big one. All dressings are house dressings. Those sampled have been good. One of the dining group remarks that they are too liberally applied.

In addition to the regular selection of leafy salads, there are also avocado with crab louis, cucumber in sour cream and hot or cold ratatouille. M-m-m-mmm!

Soup of the day runs from a thin potato and leek without cream, to a creamy clam chowder. The gazpacho isn't the one you would get in Madrid, nor even around the corner in Ali Baba's. If you really like gazpacho, don't have it here.

There are also two quiches on the menu. A crabmeat quiche and a quiche lorraine. We haven't personally experienced them, but members of the board have. No complaints were heard. A small spinach salad accompanies the quiches. If you order one of these, you won't want another salad.

Desserts here feature Marble cake (of course), apple brown betty, and ice cream. The marble cake is very good, and goes well with a scoop of either chocolate or vanilla. There is a selection of teas ranging from Earl Grey to peppermint, coffee, and some of the coldest milk in town. The large milk comes in a milkshake glass.

House wines are pedestrian and expensive at $\$ 2.50$ a glass. The wine list is uninspired, but some imported beers are available.

Two persons can wine and dine here for about $\$ 20.00$. Without bar two can fare between $\$ 10$ and $\$ 15$. Major credit cards accepted.
7 Bunnies June 12, 1981.

# Platter Spatter 

Journeys To Glory Spandau Ballet

Spandau Ballet is another of the English art-punk bands which has appeared recently. More musical than Public Image Limited, yet not as sinister as Joy Division, Spandau Ballet produces songs with catchy synthesizer hooks which are interesting to listen to. Among the best songs on this album are 'To Cut A Long Story Short', 'Reformation' and 'Muscle Bound'; the chorus of the latter is the chant "Work 'till you're muscle bound, all day long", which, given time, will run through your head over and over again and drive you crazy. Worth getting a hold of if you like this sort of thing.

## Trust

Elvis Costello and the Attractions
Elvis Costello has been very busy lately - his new album is the third that he has released in less than a year (admittedly, one of these was a repackaging). Elvis's early albums were a mixture of punk anger and pop craftsmanship, making them extremely enjoyable listening; now that he is rich and famous he has calmed down quite a bit and his music is a lot blander.

However, this album isn't bad at all. For one thing, vocalist Glenn Tilbrook of Squeeze and guitarist Martin Belmont of Graham Parker's Rumour appear as guests, adding a little more depth to the music. Tilbrook and Costello's duet on 'From A Whisper To A Scream' is worth listening to, as are Steve Nieve's keyboard solos on 'Watch Your Step' and 'Fish 'N' Chip Paper'.

To conclude: I am impressed by the quality and quantity of Costello's recent work; however, I think this album will start gathering dust after a while, as I'd rather keep on wearing out my copy of This Year's Model.

David Till

## Previously Rated

The Laurel Room South Campus Hall.
An inexpensive buffet on campus run by Food Services. An example of institutional operation at its best. Fixed price of $\$ 4.20$ per person for the buffet. $\$ 11.00$ a couple with drinks. Lunch Monday to Friday, dinner Wednesday to Friday. Dinner reservations advised. 5 bunnies May 29, 1981.

## Visited Once

The Texas Steakhouse Waterloo Square.
jcwinterton et al

## Fed Follies

The last thing to happen at a Council meeting was the Banking Report. A few people on council feel that South Africa is not nice because, like most other countries in the world, they discriminate against one or more groups of people. These same people feel that money should not go into Canadian banks because all Canadian banks loan money to South Africa. Because Canadian banks do something which some people consider 'not nice' these people feel that they (and everybody else) should not do business with Canadian banks.

Now, what shall probablely happen is that the Federation of Students shall ask all students to take there money out of Canadian banks and put it someplace else.

To me this seems to be a thing which is totally disgusting. I feel that the Federation has got far more important things to be concerned with than the actions on another continent.

On a totally different subject. Elections were held last week. 23 of you voted. The person who came in first had 12 votes and the person in last place had 8 votes. There were 4 people in the race for 2 Math Co-op seats; because none of you really care (only $2.07 \%$ of you voted) I won't take the time to type their names. (If you wish to find out who won and who tied call the Fed office.)

D'Arcy A. Emery

## The Thrills of Motor-Pacing

Dedicated to the Immortal Salad-Bowl Wearers

Have you ever been to Elora? If so, have you ever been there or thought of getting there by bicycle. It is only a measly 40 kilometres. Some of you may think that it could be done in three hours, others in two, still others in one, but have you ever thought it possible that a cyclist could get there in forty minutes? Well, I did it last Sunday. It was behind a Honda 125. We averaged 60 kilometres an hour there and back. On the flats, we were going about 70 kilometres an hour.

If you are interested in motor-pacing, please remember that a massive gear is not going to help you much if you can not spin it well anyway. During most of my ride I was spinning at over 125 rpm in my $53-14$, which is a 8.08 m ( 102 in ) gear. Not once did I use my 53-13. It was just too big to spin at that kind of pace. If you do not spin, you will burn out in the first ten kilometres!!

Mad Cyclist \#1 John Plaice

## Pascal Contest We Have A Winner

The winning response to 1 r Reproducing Pascal Program contest :as not long in coming - dbjulien's solution appeared at 18:42:10 Honeywell Standard Time on Friday, May 29.

Here is the winner:
procedure main;
type string $=$ packed array $[1$.. 80] of char;
procedure selfline(mode: integer; line: string);

## var i: integer;

begin \{ selfline \}
if $($ mode $=2)$ then
write(' selfline(mode, , chr(39), line[1])
else
for $\mathrm{i}:=1$ to ord(line[1]) - ord('0') do write( ' '):
$i:=2$;
while (line[i] <> chr(37)) do
begin
if $($ line $[i]=\operatorname{chr}(34))$ and $(\operatorname{mode}=1)$ then write $(\operatorname{chr}(39))$
else write(line[i]):
$:=i+1 ;$
end:
if $($ mode $=2)$ then write $\left.\left(\operatorname{chr}(37), \operatorname{chr}(39),{ }^{\prime}\right) ;^{\prime}\right)$;
writeln;
end;
procedure writeself(mode: integer);

```
begin {writeself }
    if (mode <= 2) then
        begin
        selfline(mode, 'Oprocedure main;%');
        selfline(mode, '0 %');
        selfline(mode, 'ltype string = packed array[1 .. 80] of char;%');
        selfline(mode, '0 %');
        selfline(mode, '0 %');
        selfline(mode, '0 %');
        selfline(mode, 'Oprocedure selfline(mode: integer; line: string)%'%);
        selfline(mode, '0 %');
        selfline(mode, 'Ivar i: integer;%');
        selfline(mode, '0 %');
        selfline(mode, 'Obegin { selfline }%');
        selflino(mode, 'lif (mode = 2) then%');
        selfline(mode, '2write(" selfline(mode, ", chr(39), line[1])%');
        selfline(mode, 'Ielse%');
        selfline(mode, '2for i:= 1 to ord(line[1]) - ord("0') do%');
        selfline(mode, `3write(" ");%');
        selfline(mode, '1i:= 2;%');
        selfline(mode, 'Iwhile (line[i] <> chr(37)) do%');
        selfline(mode, '2begin%'):
        selfline(mode, '3if (line[i] =chr(34)) and (mode = 1) then write(chr(39))%');
        selfline(mode, '3else write(line[i]);%');
        selfline(mode, '3i := i + 1;%');
        selfline(mode, '2end;%');
        selfline(mode, 'lif (mode = 2) then write(chr(37), chr(39), ");");%');
        selfline(mode, 'I writeln;%');
        selfline(mode, 'Oend;%');
        selfline(mode, '0%'):
```

selfline(mode, ' $0 \%$ '):
selfline(mode, ' $0 \%$ ):
selfline(mode, 'Oprocedure writeself(mode: integer); \%'); selfine(mode, ' $0 \%$ '):
selfline(mode, 'Obegin \{ writeself \}\%'):
selfline(mode, 'lif (mode $<=2$ ) then $\%$ '):
selfline(mode, ' 2 begin $\%$ '):
writeself(mode +1 );
selfline(mode, '2end\%');
selfline(mode, ' 'lelse writeln(" writeself(mode +1 );"); \%'); selfline(mode, 'Oend; $\%$ '):
selfline(mode, ' $0 \%$ '):
selfline(mode, ' $0 \%$ '):
selfline(mode, ' $0 \%$ ');
selfline(mode, 'Obegin \{ main \}\%'):
selfline(mode, ' $\mid$ writeself( $(1)$ :\%'):
selfline(mode, 'Oend:\%'):
end
else writeln( writeself(mode +1 ):'):
end:
begin \{ main \}
writeself(1):
end:
The mathSOC T-shirt, CSC membership, and deserved fame are now his for the taking. Runner-up was cchee, whose program came in on Sunday.

Steve Hayman submitted the following contest entry:

Pascal 7.2
File: kmtureski/pasc
1: Syntax error near 'Pascal'
Fatal error in pass zero
When run, this program will indeed produce the above as output - close, but no cigar.

## CSC Flash!

Since the last mathNEWS production night, we've had one CSC meeting: Kelly Booth described the new Ikonas Frame Buffer on Thursday, June 4. (On Thursday, June 18th, Tom Cargill discussed Icon, a new programming language, but as I write this that is in the future.) Over seventy people listened to Professor Booth, of the UW CS Department, as he surveyed the internal structure of the central device in the Graphics Lab. Later, people were treated to a demonstration of the frame buffer in the Lab itself.

The main ambition of a young frame buffer is to generate pictures, usually in full colour. The central component of the UW frame buffer is a $512 \times 512$ array of 24 bit words of memory, used to store the picture. The memory is on a high-speed bus ( 100 nsec cycle time) as are a variety of other devices, including an interface to a host processor. In the case of the Grafx Lab, the host is a Honeywell Level 6 minicomputer, running the Thoth operating system (developed locally). The interface allows the Level 6 to read and write the memory, thus creating representations of pictures there.

In addition to being connected to the bus, the memory is connected to the "frame buffer controller". The FBC scans the picture memory, delivering 24 bit words to the video chain. The video chain is like an assembly line; it consumes digital information at one end and produces video information at the other, which is then fed to a video monitor and, optionally, a video tape recorder. A frame buffer obtains its power by doing fairly simple things incredibly quickly or massively in parallel. Storing a picture in its memory planes is an example of the latter; the video chain is an example of the former.

To be specific, the FBC scans a designated region of memory. The region to be scanned can be changed by commands sent over the bus, and fast enough so that animation can be performed by putting successive frames in different regions and "flipping" through them electronically. As the FBC scans memory, it comes across 24 bit words. The words go onto the assembly line; first stage: the crossbar switch. Given an input word with bits $\mathrm{B}[23], \mathrm{B}[22], \ldots, \mathrm{B}[0]$, the switch produces an output word with bits $\mathrm{B}[\mathrm{c}[23]], \mathrm{B}[\mathrm{c}[22]], \ldots, \mathrm{B}[\mathrm{c}[0]]$, where each $\mathrm{c}[\mathrm{i}]$ is from 0 to 23 . Thus any input bit can appear in any number of output positions. The vector c can, of course, be changed by commands sent over the bus.

$$
S_{\frac{1}{x}} S_{\frac{1}{x}}^{\frac{1}{x}}
$$

The word is now split into three bytes, called Red, Green, and Blue. Each byte is fed into a look-up table; thus, there are three look-up tables, independent but identical. Each table has 256 eight-bit entries. Thus, if an input byte is "00000011", the 4th entry is output by the table. The outputs of the tables are fed into digital to analog converters which produce analogue red, green, and blue signals. Combined with a sync signal generated by the FBC, these signals form the output of the video chain.

One can put other devices on the bus. A fast matrix multiplier, for performing transformations, is available. A video digitizer, that scans an analogue video signal into the frame buffer memory, can go on the bus. Finally, and this is the one of these devices that the UW frame buffer has, one can put a fast bit-slice processor on the bus. This processor can be downloaded from the host to perform quite intricate algorithms directly on the frame buffer memory at high speeds.

We've taken a brief tour of the frame buffer as it stands now (though the bitslice processor is yet to arrive). In the near future, the $11 / 45$ that currently runs MathUNIX will replace the Level 6 as the host processor. The / 45 will still run UNIX and the Level 6 will be put to other uses.

And last, but certainly not least, one must mention that the Graphics Lab seems to be one of the most pleasant working environments in the Math building. Someone has wisely turned the fluorescent lights permanently off and provided incandescent fixtures.
peter rowley

## FASDRR

Here ye! Here ye! Announcing the FASDRR Invitational Squash Tournament, Softball game, and Pool Party, set for Saturday, July 4th 1981. The entry fee is $\$ 5.00$, which includes supper and rof reshments. Tickets (and more information) are available from Trent Krauel (742-5468) or Armand Chiasson (8851372). Hurry up and get your tickets, the final entry date for the Squash Tournament, is Friday, June 19th 1981.

This week, FASDRR welcomes Dr. M. Murphy (Animal Biologist), author of the bestseller: 'Yes, You Guessed it...Dead Bears'

For several years now, Dr. Murphy has been studying the Animule, a little known species of animals. The Animule can be recognized by it's hairy features, and often suffers from peritonitis, inflammation of the abdominal lining. Animules tend to live in filthy habitats and consequently, make lousy house pets. There is no female of the species. Dr. Murphy will also discuss his work and experiments with the one-eyed snake.

On the sports scene, the FASDRR Flinstones won their first game of the season, by defaulting the 2 B Geocrunchers. This past Monday, the Flinstones tied the Stray Cats at 22-22. The Flinstones welcome the additions of Leslie 'Vanderock' Vanderburg, Mary 'Gladstone' Paal, Sue 'Kazoo' Michaud and Geoff 'Brontosaurus' Ireland to the squad. Also recalled from the minors for one game was Philomena 'Saber Tooth' Hughes.

The Flinstones' next game is against St. Pauls, Monday June 15th, 4:00 p.m. at Columbia 5A. The following week, the Flinstones will match up against the Kamikaze Chems, Monday June 22nd, 5:20 p.m. at Columbia 5B.

NON-EIIIOEIAL

Four score and seven sears aso todas it was $18 \% 4$ and who ceres bbout the Gettasburs address anywzy?
If you are a wise deity
and know the truth i+e.
hathNEWS is the best paren
in the $K-4$ anea (surely you
jest!): then you are invited
to keef it that was. Just
come or over to mathsoc and
3sk when the next production
nisht is and we shall be
slad to beach you how to
tyreset. Just think--once
you know how to use the
hoton you can do your
resume with $8,10,12, \ldots 18$
M. Adman

$(4)$


## Feedback

## Dear William,

I thought I'd write in and offer a few comments on your last editorial regarding Mathsoc. Now that the acclamations are over, they suddenly seem to be topical again.

You state that you fear the development of a clique within Mathsoc. I fear such a development is inevitable. It seems to be a common occurrence in student government, partly because the small scale of operations tends to bring members into contact more often, and partly because of the existence of a "hangout" (in this case MC3038). These cliques based on a physical location are the worst kind, as it takes no effort to join. You don't have to be a photographer or have an I.Q. of over 150 or even garner any votes. You just have to go and sit in the damn office.

Paradoxically, it has been said in defense of such cliques that they are "open", ie, that anyone can join. This may be true, but people who oppose such cliques usually haven't the slightest intention of joining. (Notably your "active and talented people", who can't see the point of wasting their talents in such dissipation). Their objections stem from the fact that fewer viewpoints are available to an organizational clique. Decisions are made by consensus rather than confrontation and compromise; ideas (good and bad) seem much more reasonable and get less examination when they come from friends.

Personally (and I think here I express the view of the majority of students), the people in Mathsoc can hang around with each other day and night - as long as they realize their democratic responsibilities and take the trouble to seek out the opinion of those constituents who aren't immediate friends.

The other perennial problem facing Mathsoc and organizations like it is the tendency to take themselves too seriously. If anyone underestimates this tendency, they should attend a council meeting where the constitution is being discussed, or (more dramatically), try an experiment like I did a year ago: run on the order of thirty-seven candidates for the three highest offices. This was instructive not only in that thirty-seven intelligent people felt enough contempt for the elections to participate in such an anarchic stunt, but in the violence of the opposition to it (two editorials attacking me personally and enough bungling to require a fresh start to elections).

Again: they can have coronations every year if they want - as long as they realize that their role is basically that of a service organization.


We're not just Coffee \& Doughnuts. . .

| *Subs | *Salads | *Bagels |
| :---: | :---: | :---: |
| *Tea | *Soup | *Hot Chocolate |
| *V-8 | *Pop | *Fruit Juices |
| *Apples | *Oranges | *Muffins |

*Lemonade *Iced Tea

Why Not Drop in For a Bite?
P.S. We're cheaper than the machines and we don't eat money.

And what form should this service take? It definitely should not take the form of exhuming that ill-defined concept, "spirit". Fostering a misguided chauvinism such as the Engineers have is an old tactic. If it works, it shields those in charge from such unpatriotic actions as criticism; and if it fails, they can always say, "we tried, but people are too apathetic..."

Nor should it take the form of sponsoring pubs in the Math Faculty Lounge where people can drink beer and listen to CKMS disc jockeys playing middle-of-the-road pap. II can drink beer in the Bombshelter, and the music's better.

An idea a few of us discussed last year was that of a "Beach Party", to be held in December. People would be encouraged to show up in summer costume; they would be shown old Frankie Avalon/Annette Funicello movies, and then taken somewhere else to dance to the Beach Boys, drink pina coladas and eat
hot dogs. This is rather impractical, which is why we didn't discuss it for long, but it illustrates the type of ideas that Mathsoc people should be considering.

They could learn some lessons from the people who run the Math Grad Ball. I remember the negative reaction when MGB first approached Council ("why don't they want us to run it?") with the result that the whole thing was carried out without Mathsoc interference. Now, I don't know who the MGB people are, whether they have a constitution or elections, or whether they have fights to the death over what band to book. All I know is that they don't splash their internal disputes all over any available media, they don't ask for pats on the back for their efforts, and I haven't heard a single person complain about what they deliver.

Well, I join with you, William, in hoping for better things from Mathsoc. But I've taken to regarding my $\$ 2.50$ as utterly lost; that way, if they deliver anything, it's a pleasant surprise.

Prabhakar Ragde.

## SURFACES IN QUASI-QUASI SPACE

## Claude Hopper Omnius University

There is at present a school of mathematicians which holds that the explosive growth of jargon within mathematics is a deplorable trend. It is our purpose in this note to continue the work of Redheffer [1] in showing how terminology itself can lead to results of great elegance.

I first consolidate some results of Baker [2] and McLelland [3]. We define a class of connected snarfs as follows: $S_{\alpha}=\Omega(\gamma \beta)$. Then if $B=$ is a Boolean left subideal, we have:

$$
\nabla S_{\alpha}=\iiint_{E(\Omega)} B\left(\gamma_{b_{0}}, \gamma_{b_{1}}\right) d \sigma d \phi d \rho-\frac{19}{51} \Omega .
$$

Rearranging, transposing, and collecting terms, we have: $\Omega=\Omega_{0}$. The significance of this is obvious, for if $\left\{S_{\alpha}\right\}$ be a class of connected snarfs, our result shows that its union is an utterly disjoint subset of a $\pi$-hedral surface in quasi-quasi space.

We next use a result of Spyrpt [4] to derive a property of wild cells in a door topology, $\square$, which is a superlinear space. Let $\left\{P_{\gamma}\right\}$ be the collection of all nonvoid, closed, convex, bounded, compact, circled, symmetric, connected, central, $\boldsymbol{Z}$ directed, meager sets in $\square$. Then $P=\bigcup P_{\gamma}$ is perfect. Moreover, if $P \phi$, then $P$ is superb.

Proof. The proof uses a lemma due to Sriniswamiramanathan [5]. This states that any unbounded fantastic set is closed. Hence we have

$$
\Rightarrow P \sim \xi\left(P_{\gamma}\right)-\frac{1}{3}
$$

After some manipulation we obtain

$$
\frac{1}{3}=\frac{1}{3}
$$

I have reason to believe [6] that this implies $P$ is perfect. If $P \neq \phi, P$ is superb. Moreover, if $\square$ is a $T_{2}$ space, $P$ is simply superb. This completes the proof.

Our final result is a generalization of a theorem of Tz [7], and encompasses some comments on the work of Beaman [8] on the Jolly function.

Let $\Omega$ be any $\pi$-hedral surface in a semi-quad space. Define a nonnegative, nonnegatively homogeneous subadditive linear functional $f$ on $X \supset \Omega$ such that $f$ violently suppresses $\Omega$. Then $f$ is the Jolly function.

Proof. Suppose $f$ is not the Jolly function. Then $\{\Gamma,, \xi\} \cup\{\Delta, \Omega,=>\}$ is void. Hence $f$ is morbid. This is a contradiction, of course. Therefore, $f$ is the Jolly function. Moreover, if $\Omega$ is a circled husk, and $\Delta$ is a pointed spear, then $f$ is uproarious.

## Referemces

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response 3t 2:17:23 is??? Ahy well, I dare $53 y$ you will when you start doins CS488 35sisnmenis (who aff I (.0 talk!).

Fisht, here he comes *. (ayclause) :. your friendly mathNEWS setins editor!
zhefin+, +as you mas or mas not have suessed, this is a conibination mastheady filler and self-indulsent babble poram, Well, let's roll the redits... First offy the uevious wribers of this riece you are (not?)

## 183N 67es-910

A weekly (sometimes biweekly) publication of the University of Waterloo Mathematics Society, It is funded by, but independent of, MathSoc, and is the only weekly newspaper on campus with an allvolunteer staff. Content is the responsibility of mathNEWS staff and editors. mathNEWS, MC 3035, University of Waterloo, 200 University Ave. Weat, Waterloo, Ontario, N2L 3G1.
valuable advice over the ghone (I still have to set even with you for what sou wrote on my calculus auiz!). James Futtick insists on credits for waxins and lasout. James can also run the mile in under pour minutes; he can also tar dance, sins and pley the hurdy-surds. (He is available for weddinsis? barfitzazhs, and other social occasions,) (Retort: I don't even know whet a hurds-gurds is!? - try a sousafnone, pernaps? - jhe)

It is now $2: 40$ am - I am beins inundated with sussestions for finishins this thiris off. Try sasins sootbye..." OK. This is actins editor [Iavid T111 sisnins off. I am still perpectly calm, rational and sane...one two three kick+.+.+soodnisht!

(photon fed follies) t Tracey Allen (social director) James Futtick (photon a preview . Next if zre tile Adrinser (dead rinser) and his sidekick M. Adman (FASIRR) Madelalie (soryy jcwinterton (salumeh) $\hat{y}$ jap (motor pacins) feter rowley cSG f185m at last minise ? Mark I'Gabriel (last last minute Csn!); Frabhakar Rasde (letter); Iavid Bray (layout - first time out??); did this) (Quasi). Also, thanks so out to willian


