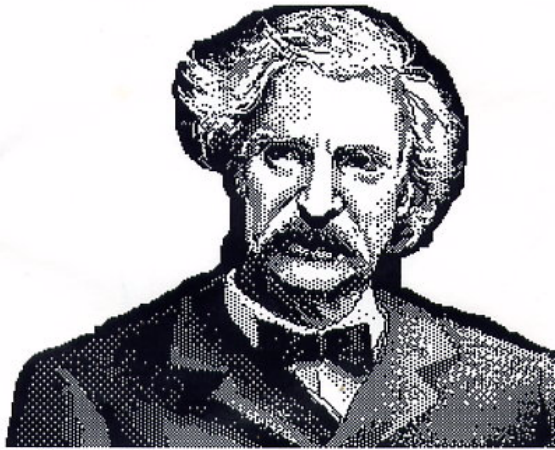


Design by Committee

$$\sum_{i=1}^n IQ(i) = \frac{\min(IQ(1..n))}{n^2}$$

The IQ of a designing committee is equal to
the lowest IQ of any committee member
divided by the square of the number of members.

Quotes from Mark Twain:



"It ain't the parts of the Bible that I can't understand that bother me, it's the parts I do understand.

"March is a dangerous month in which to invest in the stock market. Other dangerous months are April, May, June, July, August, September, October, etc."

"I want to go to Heaven for the climate, and Hell for the company."

"A lie travels half way around the world by the time the truth is putting on its boots."

"You should spend half your wages on tobacco, whiskey, and women. Then you're free to spend the remaining half foolishly."

"If you find a sick hungry dog, and take it home, feed and care for it, the dog will not bite you. That's the main difference between men and dogs."

Streamlining Digital Signal Processing

A Tricks of the Trade Guidebook

Edited by Richard G. Lyons

A very different DSP book! Tips, tricks of the trade, practical shortcuts, and clever, real-world engineering solutions you didn't learn in school—from a "dream team" of experienced signal-processing professionals.

This book covers an assortment of signal processing topics such as digital filtering, spectrum analysis, specialized signal generation, high-speed function approximation, and more. While rich in the specialized DSP tips and tricks that make it a valuable resource for experienced working engineers, this book also contains sufficient fundamental DSP theory and simple mathematics to make it accessible to students.

This is so much more than just another DSP textbook—it bridges the theory-to-practice gap and gives practicing engineers and computer programmers the useful, real-life tips, tricks, and techniques they need to make DSP hardware and software designs operate faster, with improved accuracy and increased computational efficiency.

The whole aim of practical politics is to keep the populace alarmed (and hence clamorous to be led to safety) by menacing it with an endless series of hobgoblins, all of them imaginary.

- H.L. Mencken [1880-1956]

What Can Possibly Go Wrong:

The major difference between a thing that might go wrong and a thing that cannot possibly go wrong is that when a thing that cannot possibly go wrong goes wrong, it usually turns out to be impossible to get at and repair.

- Douglas Adams

An expert is a man who has made all the mistakes which can be made in a very narrow field.

-Niels Bohr

Research is what I'm doing when I don't know what I'm doing.

-Wernher von Braun

Confidence is a feeling you have
just before you fully understand
the problem.

People are more violently opposed to
fur than leather because it's safer to
harass rich women than motorcycle
gangs.

RESEARCH DEFINITIONS:

Phrase:	Definition:
"it has long been known..."	I haven't bothered to look up the original reference.
"While it has not been possible to provide definite answers to these questions..."	The experiment didn't work out, but I wanted to publish anyway.
"Extremely high purity"	Composition unknown except for the exaggerated claims of the supplier.
"Three of the samples were chosen for detailed study."	The results on the others didn't make sense and were ignored.
"Accidentally stained during mounting"	Accidentally dropped on the floor.
"Handled with extreme care during the experiments"	Not dropped on the floor.
"Although some detail have been lost in reproduction, it is clear from the original micrograph that..."	It is impossible to tell from the original micrograph.
"Typical results are shown"	The best results are shown.
"Agreement with predicted curves is excellent."	Fair.
"...good."	Poor.
"...satisfactory."	Doubtful.
"...fair."	Imaginary.
"Correct within an order of magnitude"	Wrong.
"It is believed that..."	I think...
"It is clear that much additional work will be required for a complete understanding of..."	I didn't understand it at all.
"Thanks to Joe Glotz for assistance with the experiment, and to John Doe for valuable discussions."	Glotz did the work and Doe explained what it meant to me.

The Three Laws of Thermodynamics: (paraphrased)

Law 1. You can never win, you can only break even.

Law 2. You can break even only at a temperature of absolute zero.

Law 3. You can never reach absolute zero.



What part of

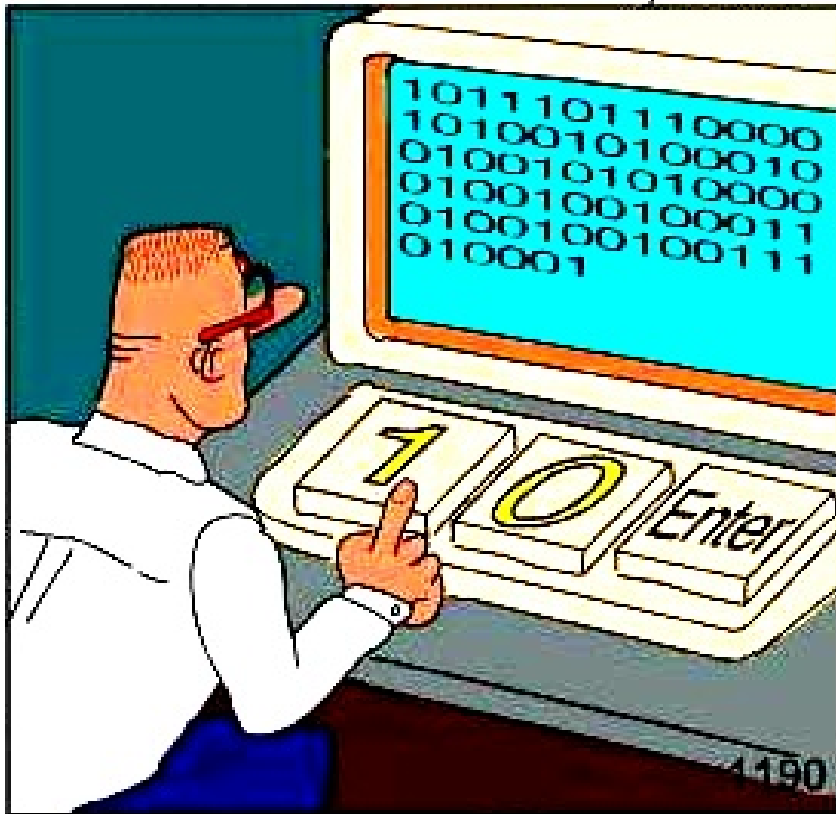
$$X(m) = \sum_{n=0}^{N-1} x(n) e^{-j2\pi nm/N}$$

don't you understand?

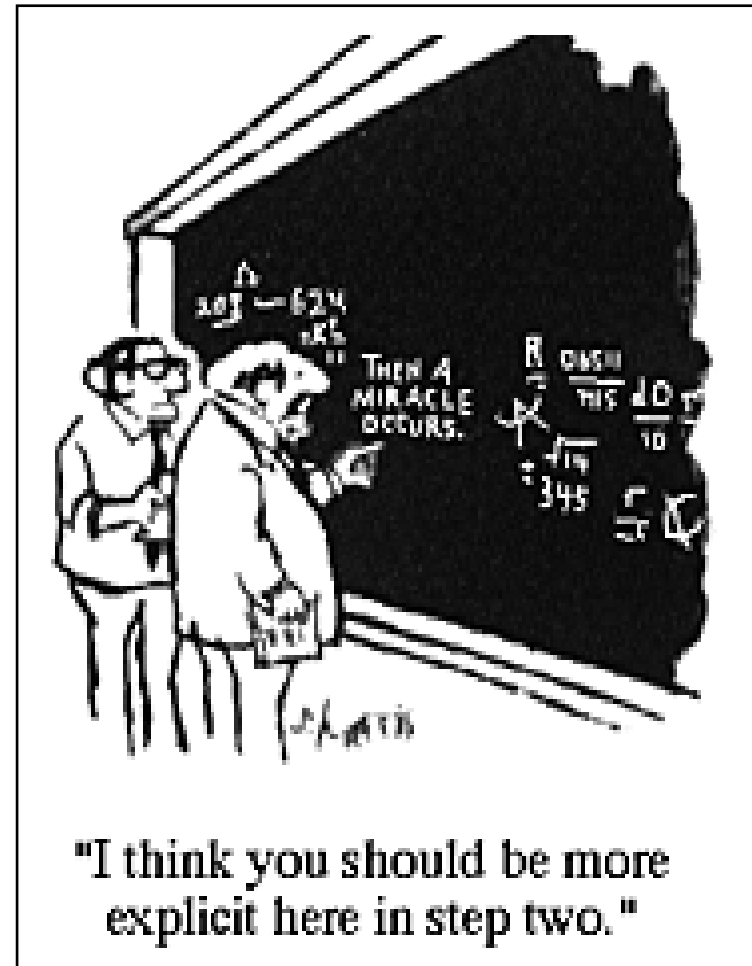
Richard Lyons, Besser Associates

"One of the great
tragedies of life is
the murder of a
beautiful theory by a
gang of brutal facts."

- "Binary is as easy as 1, 10, 11."
- "There are 10 kinds of people in the world - those who understand binary numbers, and those who don't."



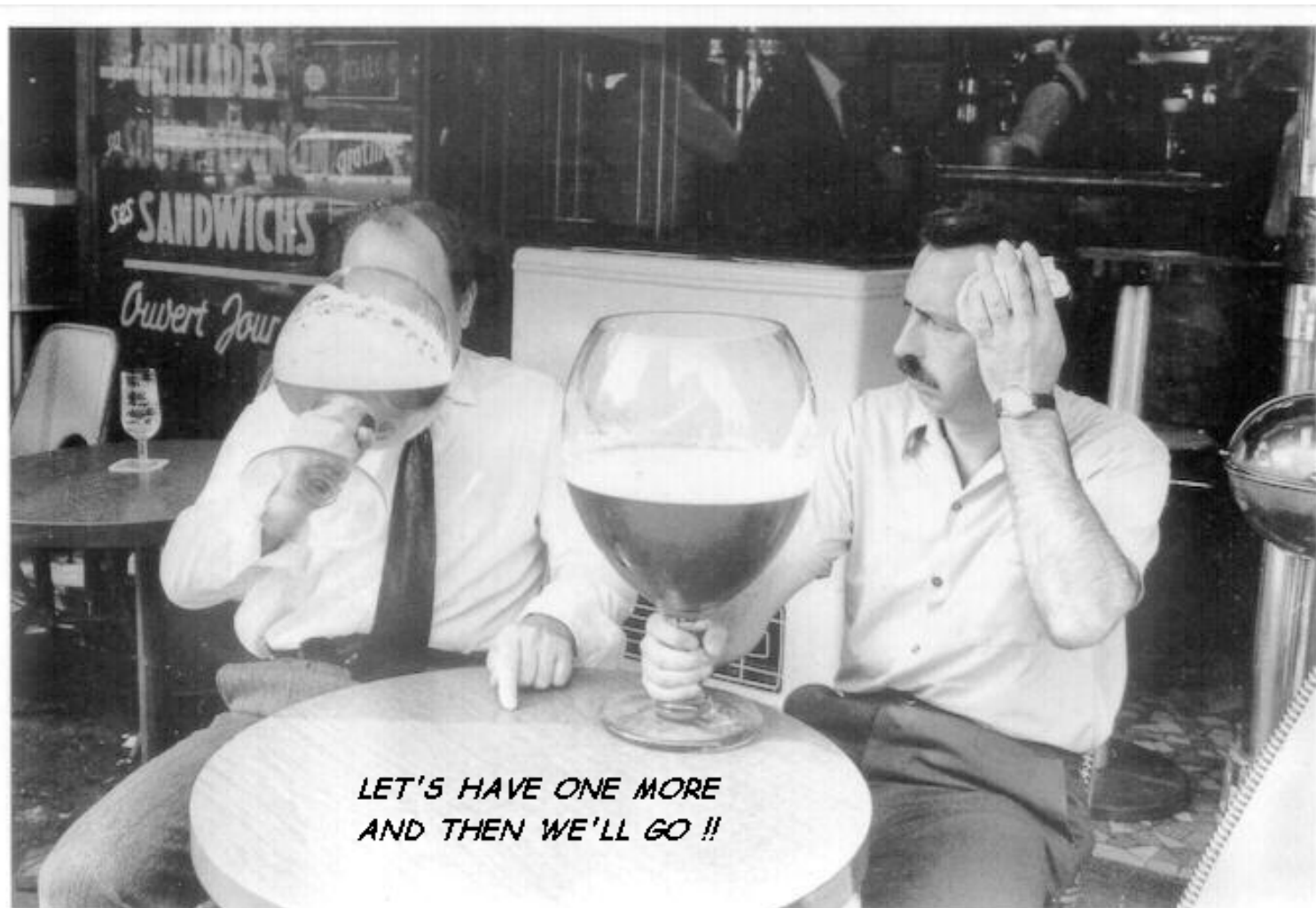
Machine language programmer



English is a difficult language to learn:

The letter combination "ough" can be pronounced in nine different ways. The following sentence contains them all:

"A rough-coated, dough-faced, thoughtful ploughman strode through the streets of Scarborough; after falling into a slough, he coughed and hiccoughed."



If something works, thank an engineer.

If you talk about going to the moon,
you're called a dreamer or a poet. If
you actually go there, you're called
an engineer.

A scientist discovers that which
exists. An engineer creates that which
never was.

Teaching Math In 1950s

A logger sells a truckload of lumber for \$100. His cost of production is $\frac{4}{5}$ of that price. What is his profit?

Teaching Math In 1960s

A logger sells a truckload of lumber for \$100. His cost of production is $\frac{4}{5}$ of that price, or \$80. What is his profit?

Teaching Math In 1970s

A logger sells a truckload of lumber for \$100. His cost of production is \$80. Did he make a profit?

Teaching Math In 1980s

A logger sells a truckload of lumber for \$100. His cost of production is \$80 and his profit is \$20. Your assignment: Underline the number 20.

Teaching Math In 1990s

A logger cuts down a beautiful forest because he cares nothing for the habitat of animals or the preservation of our woodlands. He does this so he can make a profit of \$20.

What do you think of this way of making a living? Topic for class discussion: How did the birds and squirrels feel as the logger cut down their homes? (There are no wrong answers.)

"Deep Thoughts" (by Jack Handey)

I hope life isn't a big joke, because I don't get it.

If you're a boxing referee, it's probably illegal to wear a bow tie that spins or changes colors.

Somebody told me it was frightening how much topsoil we are losing each year, but I told that story around the campfire and nobody got scared.

If I ever get real rich, I hope I'm not real mean to poor people, like I am now.

I believe in making the world safe for our children, but not our children's children, because I don't think children should be having sex.

I bet the main reason the police keep people away from a plane crash is they don't want anybody walking in and lying down in the crash stuff, then when somebody comes up act like they just woke up and go, "What was THAT?!"

How come the dove gets to be the peace symbol? How about the pillow? It has more feathers than the dove, and it doesn't have that dangerous beak.

If you're a cowboy, and you're dragging a guy behind your horse, I bet it would really make you mad if you looked back and the guy was reading a magazine.

I think there probably should be a rule that if you're talking about how many loaves of bread a bullet will go through, it's understood that you mean lengthwise loaves. Otherwise, it makes no sense.

If builders built buildings the way programmers
wrote programs, then the first woodpecker that came
along would destroy civilization.

Bumper Stickers That Rick Would Like To See:

I didn't fight my way to the top of the food chain to be a vegetarian.
Some people are alive only because it is illegal to kill them.
The gene pool could use a little chlorine.
If we aren't supposed to eat animals, why are they made of meat?
I don't suffer from insanity, I enjoy every minute of it.
According to my calculations, the problem doesn't exist.
Forget about world peace ... visualize using your turn signal.
Give me ambiguity or give me something else.
We have enough youth, how about a fountain of "smart."
Always remember you are unique, just like everyone else.
"Very funny Scotty. Now beam down my clothes."
Puritanism: the haunting fear that someone, somewhere, may be having fun.
Don't add years to your life, add life to your years.
There are 3 kinds of people: those who can count and those who can't.
Diplomacy is the art of saying "nice doggie!"... until you can find a rock.
"Auntie Em: hate you, hate Kansas, am taking the dog." Love Dorothy.
Lead me not into temptation, I can find it myself.

OK, you math-types, what's wrong here?

Theorem: $4 = 5$

Proof:

$$16 - 36 = 25 - 45$$

$$4^2 - 9 \cdot 4 = 5^2 - 9 \cdot 5$$

$$4^2 - 9 \cdot 4 + 81/4 = 5^2 - 9 \cdot 5 + 81/4$$

$$(4 - 9/2)^2 = (5 - 9/2)^2$$

$$4 - 9/2 = 5 - 9/2$$

$$4 = 5$$

$$C = \left[\int_{x_1}^{x_2} \sum_{i=1}^n \frac{(3+7x)^2 + (\beta - 180^\circ) + 3T}{(5+y)(8+2) + 1} dx + \frac{3[(3+7x)^2 + (\beta - 180^\circ) + 3T]}{(5+y)(8+2) + 1} + 6 \ln 11 \right]$$

$$C = \left[\int_{x_1}^{x_2} \sum_{i=1}^n \frac{\sqrt{3+7x} + (\beta - 180^\circ) + 3T}{\frac{(5+y)(8+2) + \log 8}{10\Omega - 6T - 1}} dx + \frac{2\sqrt{3+7x} + (\beta - 180^\circ) + 3T}{\frac{(5+y)(8+2)}{10\Omega - 6T - 1} + \log 8} + 6 \ln 11 \right]$$

$$C = \sqrt{\left[\int_{x_1}^{x_2} \sum_{i=1}^n \alpha dx + \frac{2\sqrt{3+7x} + (\beta - 180^\circ) + 3T}{\frac{(5+y)(8+2)}{10\Omega - 6T - 1} + \log 8} + 6 \ln 11 \right]}$$

$$C = \sqrt{\left[\int_{x_1}^{x_2} \sum_{i=1}^n \alpha dx + \frac{2\sqrt{3+7x} + (\beta - 180^\circ) + 3T}{\frac{(5+y)(8+2)}{10\Omega - 6T - 1} + \log 8} + 6 \ln 11 \right]}$$

$$C = \sqrt{\left[\int_{x_1}^{x_2} \sum_{i=1}^n \alpha dx + \frac{2\sqrt{3+7x} + (\beta - 180^\circ) + 3T}{\frac{(5+y)(8+2)}{10\Omega - 6T - 1} + \log 8} + 6 \ln 11 \right]}$$

Theorem: $2 = 1$

Proof:

Given that A and B are equal: $A = B$

multiply each side by A: $A^2 = AB$

subtract B^2 from each side: $A^2 - B^2 = AB - B^2$

factor the polynomials: $(A+B)(A-B) = B(A-B)$

divide both sides by $(A-B)$: $A+B = B$

if $A = B$, then: $2B = B$

divide each side by B: $2 = 1$

"In the modern world the stupid are
cocksure while the intelligent are full
of doubt."

--Bertrand Russell

Rick's nominee for the

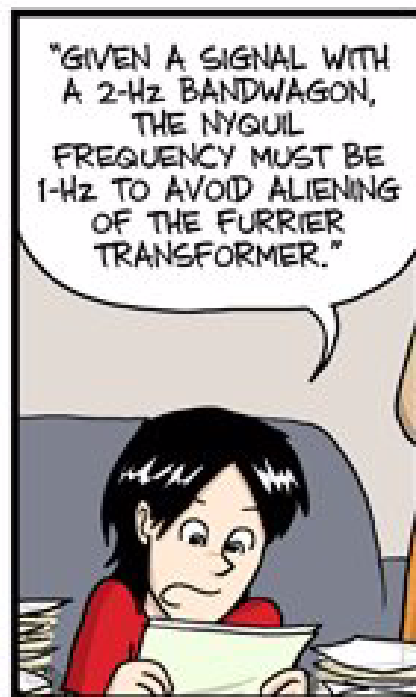
"World's Most Complicated DSP Equation":

$$S' = \frac{\sum_{i \in E} \left[\sum_{j \in N} D_{ij} \right] + \sum_{i \in E} \left[\sum_{j \in N} \Delta_{ij} \right]}{\sum_{i \in E} \left[\sum_{k \in E, k \neq i} D_{ik} \right] + \sum_{i \in E} \left[\sum_{k \in E, k \neq i} \Delta_{ik} \right]} = \frac{\sum_{i \in E} \left[\sum_{j \in N} D_{ij} \right] \left(1 + \sum_{i \in E} \left[\sum_{j \in N} \Delta_{ij} \right] / \sum_{i \in E} \left[\sum_{j \in N} D_{ij} \right] \right)}{\sum_{i \in E} \left[\sum_{k \in E, k \neq i} D_{ik} \right] \left(1 + \sum_{i \in E} \left[\sum_{k \in E, k \neq i} \Delta_{ik} \right] / \sum_{i \in E} \left[\sum_{k \in E, k \neq i} D_{ik} \right] \right)} \quad (4)$$

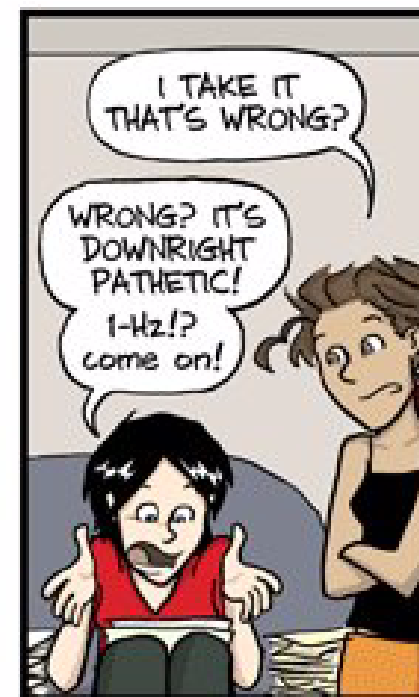
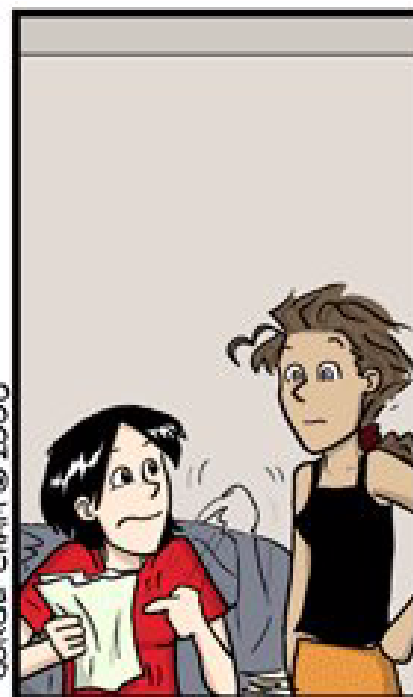
[Appeared on page 42 of the March, 2006, issue of the IEEE Sig. Proc. magazine. Article on video data mining.]

"Every act of conscious learning requires the willingness to suffer an injury to one's self-esteem. That is why young children, before they are aware of their own self-importance, learn so easily; and why older persons, especially if vain or important, cannot learn at all."

Thomas Szasz



JORGE CHAM © 2008



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"In corporate religions as in others,
the heretic must be cast out not
because of the probability that he is
wrong but because of the possibility
that he is right."

Antony Jay

"Management and Machiavelli",

1967

"God made economists in order
to make astrologers look smart".

Rick's idea of digital humor:

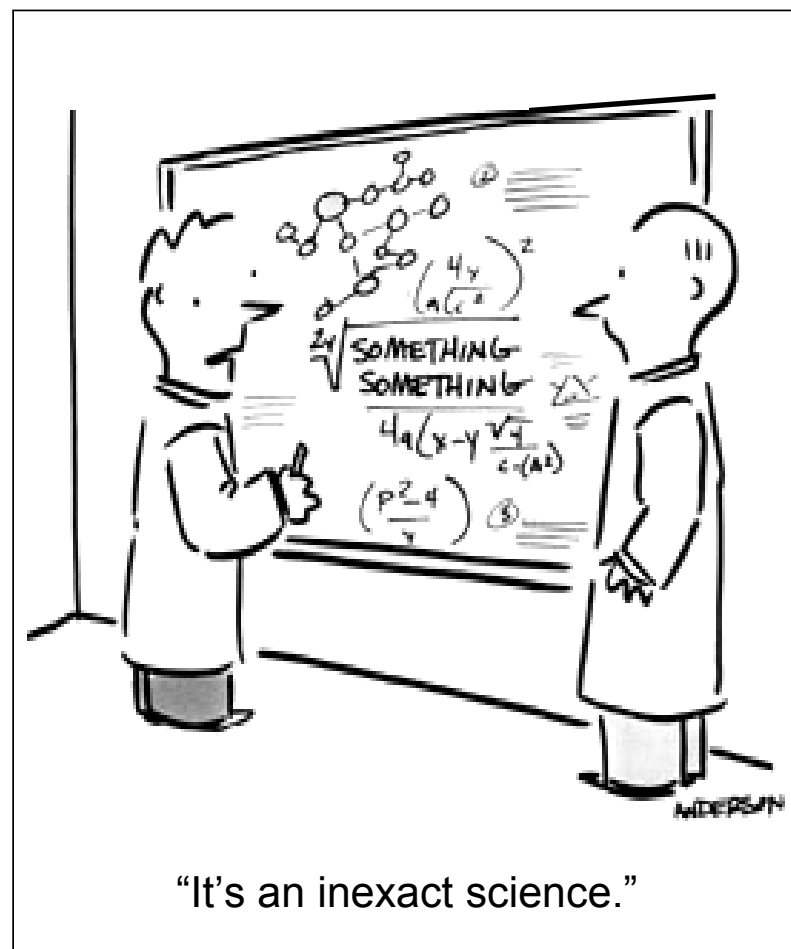
Alcohol and algebra do not mix.
Don't drink and derive.

Electrical engineers are well grounded.

DSP, ... if it were easy it would be a sport.

A/D converter engineers do it periodically.

Digital filter designers get a good response.



Theorem: $1 = -1$

Proof:

$$\sqrt{-1} = \sqrt{-1}$$

$$\sqrt{\frac{1}{-1}} = \sqrt{\frac{-1}{1}}$$

$$\frac{\sqrt{1}}{\sqrt{-1}} = \frac{\sqrt{-1}}{\sqrt{1}}$$

$$\frac{1}{\sqrt{-1}} = \sqrt{-1}$$

$$1 = (\sqrt{-1})^2 = -1$$

Question on the British Civil Service exam:

Punctuate the following words into a series of meaningful English sentences.

That That Is Is That That Is Not Is Not Is
Not That It It Is

"The question of whether a computer can think is no more interesting than the question of whether a submarine can swim ."

E. W. Dijkstra

"Memory is like an orgasm. It's a lot better if you don't have to fake it."

-Seymore Cray, on virtual memory

"Unix is the answer, but only if you phrase the question very carefully ."

anonymous

"A computer lets you make more mistakes faster than any invention in human history with the possible exceptions of handguns and tequila ."

Mitch Ratliffe, Technology Review April, 1992

With sufficiently sophisticated processing, it is no longer necessary to have any input data.

~ Julius O. Smith III

From "The Prince" (Machiavelli 1469-1527)

"There is nothing more difficult to carry out or more doubtful of success than to initiate a new order of things. For the reformer has enemies in all those who profit by the old order, and only lukewarm defenders in those who would profit by the new order, the lukewarmness arising partly from fear of their adversaries, who have the laws in their favor; and partly from the incredulity of mankind, who do not truly believe in anything until they have had actual experience of it. Thus it arises that on every opportunity for attacking the reformer, his opponents do so with the zeal of partisans, the others defend him only half-heartedly, so that between them he runs great danger."

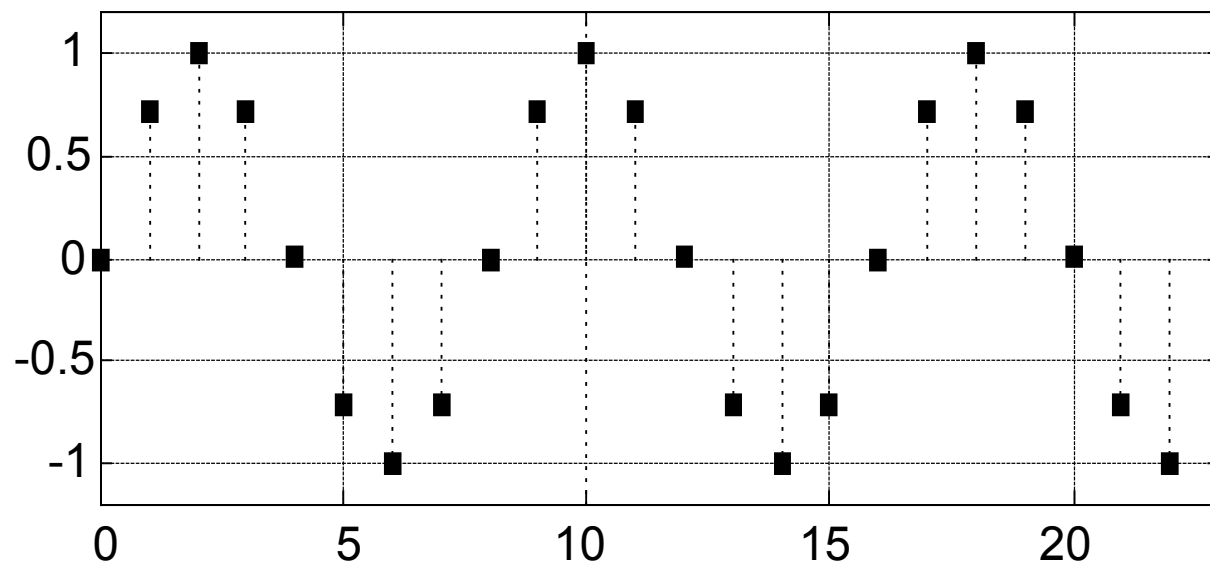
A Quote From Theodore Roosevelt [1858-1919]

It is not the critic who counts, not the man who points out how the strong man stumbled or where the doer of deeds could have done better. The credit belongs to the man who is actually in the arena; whose face is marred by dust and sweat and blood; who strives valiantly; who errs and comes up short again and again... who knows the great enthusiasms, the great devotions, and spends himself in a worthy cause; who at the least knows in the end the triumph of high achievement; and who, at the worst, if he fails, at least fails while doing greatly, so that his place shall never be with those cold and timid souls who know neither victory nor defeat.

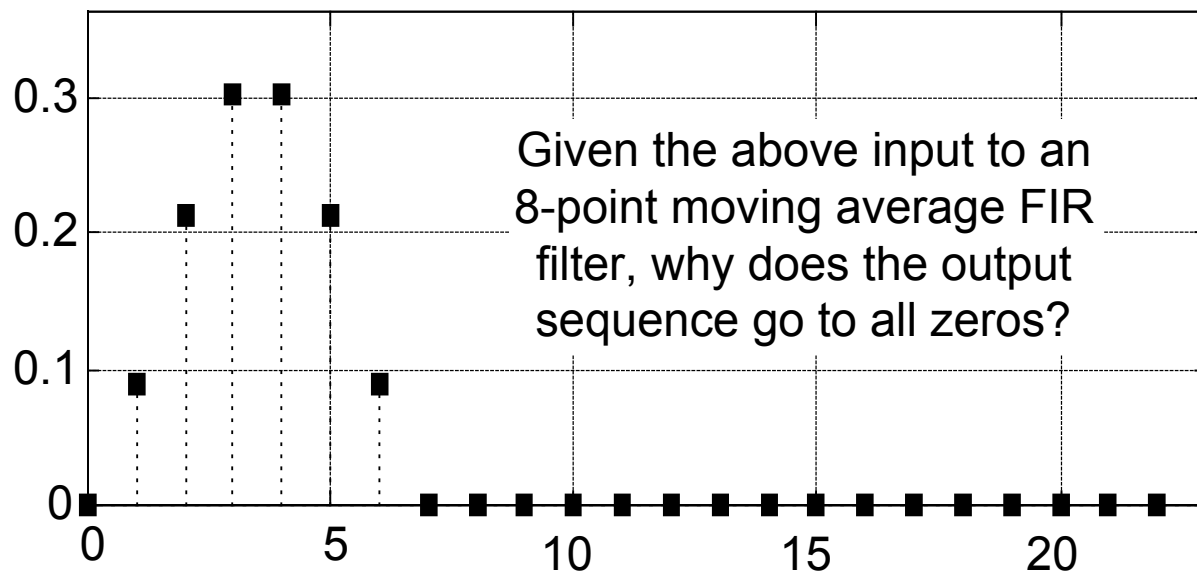
Some advice from your Instructor
regarding work and salaries:

Always work hard so that you're worth more than you're being paid, ... because eventually you'll be paid more than you're worth.

Filter Input



Filter Output



Press On

Nothing in the world can take the place of persistence.

Talent will not; nothing is more common than unsuccessful men with talent.

Genius will not; unrewarded genius is almost a proverb.

Education will not; the world is full of educated derelicts.

Persistence and determination alone are omnipotent.

"In 1735 the solving of an astronomical problem, proposed by the Academy, for which several eminent mathematicians had demanded several months' time, was achieved in three days by Euler with aid of improved methods of his own.... This same problem was solved by the illustrious (Karl) Gauss in one hour."

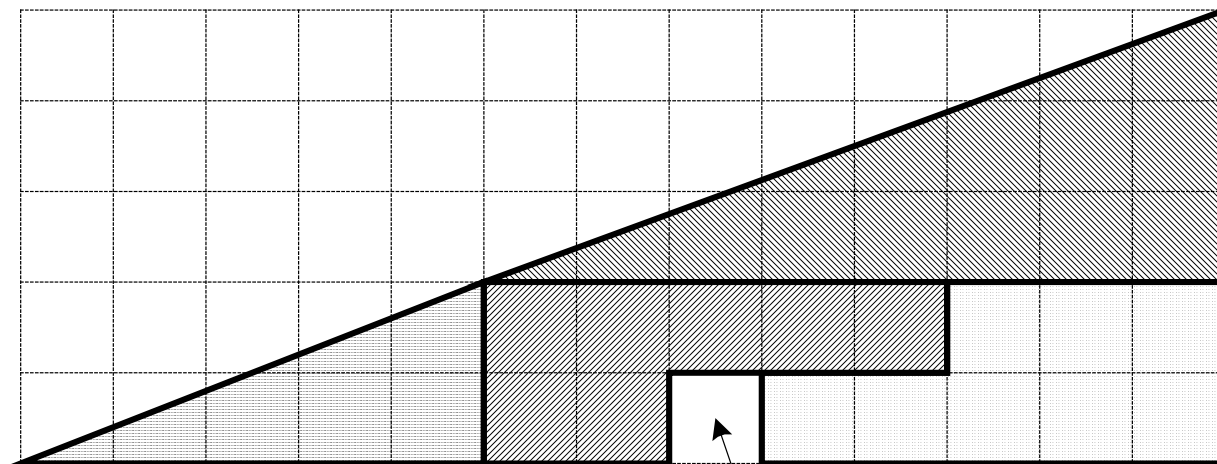
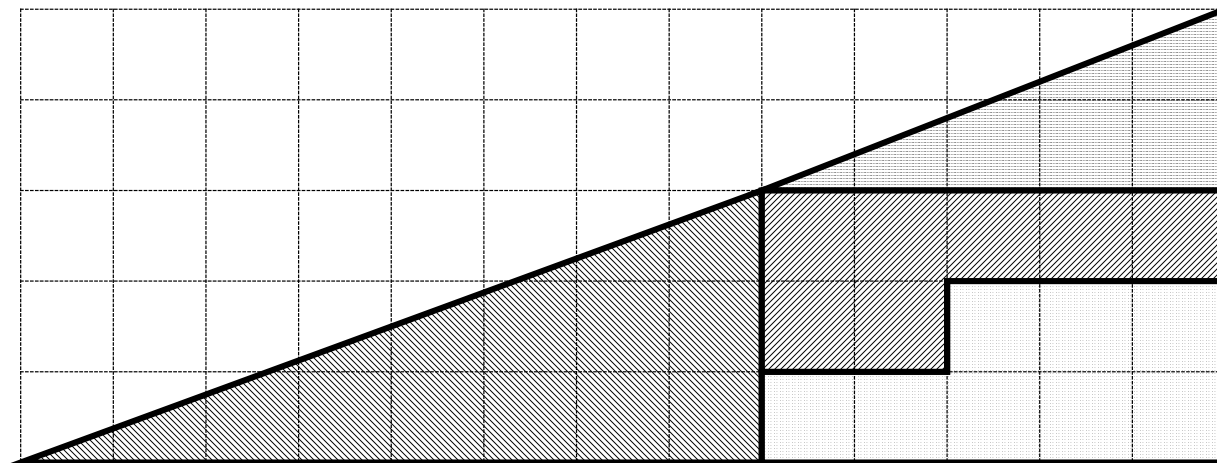
-Cajori, F.

History of Mathematics (New York, 1897), p. 248.

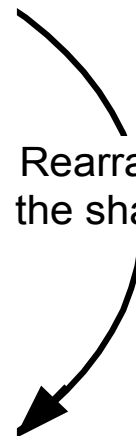
Engineering is the art of making what you
want from things you can get.

In theory, there is no difference between theory
and practice; in practice, there is.

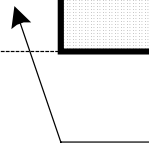
**Here's the
puzzle**



Rearrange
the shapes



From where did this
white square come?



SOME USEFUL DESCRIPTIONS OF PEOPLE YOU MAY WORK WITH:

Not the sharpest knife in the drawer.

Got into the gene pool while the lifeguard wasn't watching.

A room temperature IQ.

Got a full 6-pack, but lacks the plastic thingy to hold them together.

A photographic memory, but the lens cover is glued on.

A prime candidate for natural deselection.

Bright as Alaska in December.

During evolution his ancestors were in the control group.

Fell out of the family tree.

Has two brains; one is lost and the other is out looking for it.

He's so dense, light bends around him.

If he were any more stupid, he'd have to be watered twice a week.

If you stand close enough to him, you can hear the ocean.

It's hard to believe that he beat 100,000 other sperm.

Some drink from the fountain of knowledge, but he just gargles.

Takes him 1.5 hours to watch "60 Minutes".

Gates are down, the lights are flashing, but the train isn't coming.

Samples of "English" from around the world:

In a Bucharest hotel lobby: The lift is being fixed for the next day. During that time we regret that you will be unbearable.	In a Zurich hotel: Because of the impropriety of entertaining guests of the opposite sex in the bedroom, it is suggested that the lobby be used for this purpose.
In a Paris hotel elevator: Please leave your values at the front desk.	In an advertisement by a Hong Kong dentist: Teeth extracted by the latest Methodists.
In a hotel in Athens: Visitors are expected to complain at the office between the hours of 9 and 11 A.M. daily.	In a Rome laundry: Ladies, leave your clothes here and spend the afternoon having a good time.
In a Yugoslavian hotel: The flattening of underwear with pleasure is the job of the chambermaid.	In a Bangkok dry cleaner's: Drop your trousers here for best results.
In an Austrian hotel catering to skiers: Not to perambulate the corridors in the hours of repose in the boots of ascension. (Huh?)	In a Swiss mountain inn: Special today -- no ice cream.
In a Norwegian cocktail lounge: Ladies are requested not to have children in the bar.	In a Bangkok temple: It is forbidden to enter a woman even a foreigner if dressed as a man.
Outside a Hong Kong tailor shop: Ladies may have a fit upstairs.	Outside a Paris dress shop: Dresses for street walking.
In a Japanese hotel: You are invited to take advantage of the chambermaid.	On the door of a Moscow hotel room: If this is your first visit to the USSR, you are welcome to it.

"His men would follow him anywhere, but only out of curiosity."

--British Officer evaluation

Technical Support:

Customer: "I'm running Microsoft Windows '98."

Technician: "I see."

Customer: "My computer isn't working now."

Technician: "Yes, you already said that."

Prison vs. Work

IN PRISON: you spend the majority of your time in an 8x10 cell.

AT WORK: you spend most of your time in a 6x8 cubicle.

IN PRISON: you get three free meals a day.

AT WORK: you get 1 break for a meal that you pay for.

IN PRISON: you get time off for good behavior.

AT WORK: you get rewarded for good behavior with more work.

IN PRISON: a guard unlocks and opens all the doors for you.

AT WORK: you must carry around a security card and unlock
and open all the doors yourself.

IN PRISON: you can watch TV and play games.

AT WORK: you get fired for watching TV and playing games.

IN PRISON: you get your own toilet.

AT WORK: you have to share.

IN PRISON: they allow your family and friends to visit.

AT WORK: you cannot even speak to your family and friends.

IN PRISON: all expenses are paid by taxpayers with no work required.

AT WORK: you get to pay all the expenses to go to work and then
they deduct taxes from your salary to pay for prisoners.

IN PRISON: you spend most of your life looking through bars from the
inside wanting to get out.

AT WORK: you spend most of your time wanting to get out and go
inside bars.

Charles Babbage wrote:

On two occasions I have been asked [by members of Parliament!], "Pray, Mr. Babbage, if you put into the machine wrong figures, will the right answers come out?"

I am not able rightly to apprehend the kind of confusion of ideas that could provoke such a question.

Differences Between You And Your Boss

When you take a long time, you're slow.

When your boss takes a long time, he's thorough.

When you don't do it, you're lazy.

When your boss doesn't do it, he's too busy.

When you make a mistake, you're an idiot.

When your boss makes a mistake, he's only human.

When doing something without being told, you're overstepping your authority.

When your boss does the same thing, that's initiative.

When you please your boss, you're ass-kissing.

When your boss pleases his boss, he's being co-operative.

When you're out of the office, you're wandering around.

When your boss is out of the office, he's on business.

When you have one too many drinks at a social, you're a drunken bum.

When your boss does the same, he appreciates the finer things in life.

When you're on a day off sick, you're always sick.

When your boss is a day off sick, he must be very ill.

When you apply for leave, you must be going for an interview.

When your boss applies for leave, it 's because he's overworked.

Quotes from Woody Allen

"I don't intend to achieve immortality through my work.
I intend to achieve it through not dying."

"If only God would give me some clear sign! Like making
a large deposit in my name at a Swiss Bank."

"I'm not afraid to die. I just don't want to be there
when it happens."