

Dear Beakman,
How does a computer work?
Arthur Bond
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Beakman or Jax,
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Dear Arthur,

Computers are very complicated things. How they work is really hard to explain in the space of a comic strip. But, I can give you a new way to think about computers. *You Can* think about them and they cannot think about you!

Computers are just machines that follow instructions we give them. We call the instructions a *program*. That means a computer is like a *program-player*. And the computer turns into anything – any kind of machine – we can tell it to.

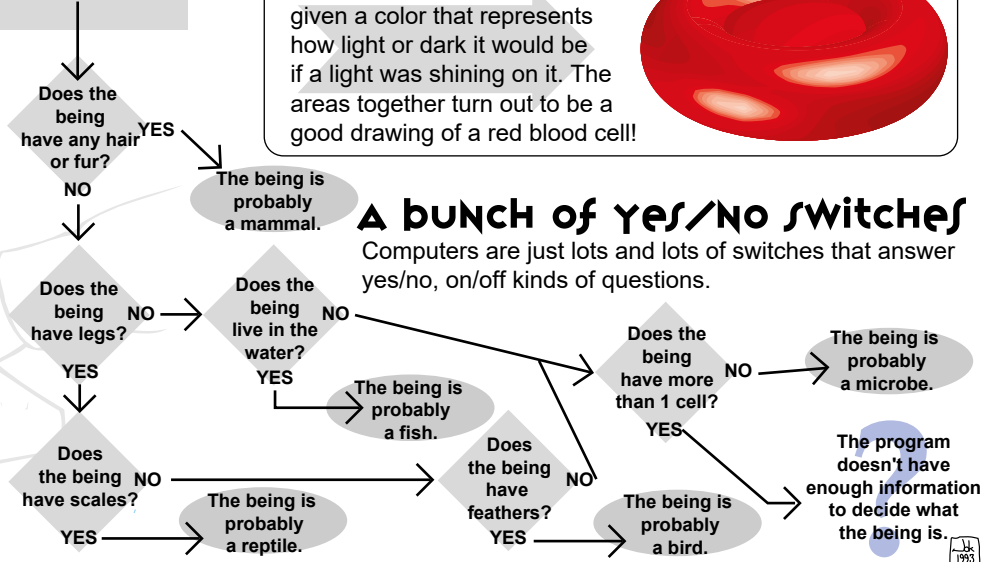
With the right program, a computer can be a typewriter, a game, a musical instrument, or even a telescope. It can be any kind of machine we can program it to be. This is why the job of being a computer programmer is such a big deal.

Here's a secret: I don't use a pencil to draw this comic. I use a computer that has been turned into a drawing machine by the programs I play on it.

Beakman
Beakman Place

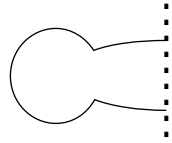
My computer program names kinds of animals. Think of an animal and try it out.

I have a living being here. What kind of creature is it?

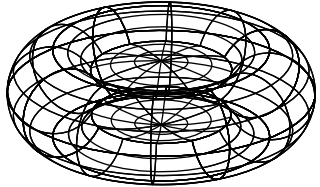


computer art

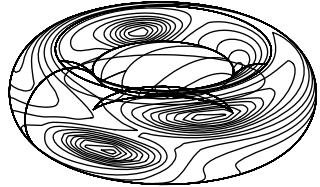
I want to draw a red blood cell. I start by drawing this shape on the computer. It's really a bunch of math that describes this curvy thing.



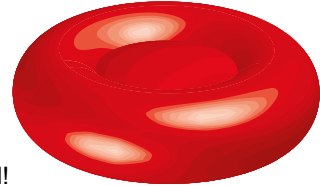
Next, I tell the computer program to spin the shape around the dotted line. I get this thing that looks like a bagel-shaped bird cage.



Now I tell the program to pretend the bird-cage-thing has a shiny surface and that there are 2 lights shining on it. What does it look like now?



Lastly, each weird little area is given a color that represents how light or dark it would be if a light was shining on it. The areas together turn out to be a good drawing of a red blood cell!



A bunch of yes/no switches

Computers are just lots and lots of switches that answer yes/no, on/off kinds of questions.

