



## Crash Course Computer Science Outtakes

### Outtakes

<https://youtube.com/watch?v=zMXuP0B1GZI>

<https://nerdfighteria.info/v/zMXuP0B1GZI>

(PBS Digital)

CrashCourse: Computer Science episode five? Four? Four.  
Episode four, take one.

Hi, I'm Carrie Anne, this is CrashCourse:Computer Science, and today, we're going to talk about how computers store and represent numerical data, which means we're not going to talk about math. Oh, it means we *do* have to talk about math. That's exactly what we're talking about. We're talking about math.

I'm Carrie Anne Philbin, hello! Hello! Cheerio! Shine m' shoe, Guvnur!

Some early electronic computers were ternary, that's three states, and quinary, that's five states. Hesitation.

The mathematical a--(laugh)

Lets current throw--flow--through--flew--

Transistors are really just little electrically contro--el-e-ctric-ly--

If we turn the input on, the transistor allows current to flow through it to the ground. Flow. Flow through it. Flow. Flow through it.

If we turn the input on, the transistor allows current to flow throu--I can't say this, why can't I say it?

So the total sum is 202. And I ran out of breath.

If you opened an e-mail written in Latvian on a Turkish computer, the result was completely unco--be like me. The result was completely incomprehensible--

That's because the right enable wire is off. Which prese--

Okay. Going for gold here. We knew once--(laughing)--my God I want to finish this episode so bad.

It's the layers and layers and layers and layers and layers and layers and layers...(laughing. background:stuck in a loop?(?~1:38))...damn.

The cock triggers and the electrical signical, signical?

More complex operations like trigonom--(laugh)  
(Second voice): I can hear you getting ready for it.  
(Carrie Anne): (laughing) I know right? I know!  
(Second voice): It's coming! It's coming!  
(Carrie Anne:) It's coming! It's coming! Fail.

If set and reset are both zero, someone will stamp upstairs...and  
(?~2:00))

Note on the application of machinery to the computation of astronomical and mathematical tables. Let's go to the thought bubble! (laughing) I don't know what to do now, it feels like such an anticlimax! (laughs).

(Singing): (?~2:12) common setup connects all of our latches with a single shared write-enabled wire.

They came up with a special symbol to wrap it all up, which looks like a big V, just another level of sup--aahhh.

Done with this. Done with abstraction.

I'm like an automaton. I'm really a robot.

(?~2:38)

There's gotta be a comma in there somewhere!

One times four, one times two, and one times one, which all adds up to 138. Nope. 183. One plus one plus the one carried equals three or 1-1 in binary, so we put the sums one and carry the one again and so on. We end up with 11001010 which is the same--one plus one plus the one carried equals three or 1-1 in binary, so we put the sums one--this is gonna--gonna get through this. So we put the sums one and we curry that one. Tasty.

So zero or zero is zero, and so this circuit always uploads zero. Now let's flip--ehhh.

Let's also give our processor four 8-bit memory registers, which we'll label A, B, and C. And D. Soon as I saw that, I was like, panic! Panic!

The control unit configures the RAM to read address 15 and configures (?~3:41) to receive that data.

So 100001000--I hate binary so much.

So one plus two--I can't even do this math.

Name is John Green AND after five PM OR is weekend AND near pizza hut, then John want pizza = TRUE. I can't remember what I was gonna say.

See you next week. See you next week. See you. See you. And how far they may take us. I'll see you next week. So hard, why is it so hard?

But before that, our computer's going to need some memory. See you next week. That was awful.

Thanks for watching, see you next week. Knew it was gonna happen. We all held our breath.

I just can't do it. I just can't do it. I just can't do it. We just have to keep going. There is no coming back. We're just going to keep going. That's what we're going to cover the next few episodes. Thanks for watching, cheerio! That was awful, that was even worse! That was worse! That was actually worse!