BBC Bitesize

Translators - GCSE Computer Science video for translators

(JOLLY MUSIC)

VICKY: What's cooking, chef?

CHEF: Talk to the computer.

VICKY: What?

CHEF: It's fully automated.

MACHINE: I am the Taste-O-Matic. Speak your order.

DENISE: Can't we just tell you?

CHEF: It needs to translate your order into something a computer can understand. Just say any food you want to the translator.

DENISE: I fancy a Sunday Roast.

VICKY: (LAUGHS)

DENISE: Roast beef, peas, mashed potatoes, gravy.

MACHINE: Source code accepted.

DENISE: Sauce code? But I'm having gravy!

VICKY: No, as in source of information. It's a high-level language.

DENISE: How do you know?

VICKY: Seen it on the internet.

DENISE: Oh, right.

MACHINE: Choose translation type: compiler, interpreter or assembler.

DENISE: Why? I just want food.

VICKY: The computer can't understand source code.

DENISE: Okay.

VICKY: It needs to be translated into object code. Object code is low-level language, usually machine code.

DENISE: Cause a machine can understand it?

VICKY: Exactly.

DENISE: Ah!

CHEF: That's binary, isn't it?

DENISE: How do you know about binary?

CHEF: I used to be a computer scientist, but then I discovered my true calling was in the fast food and beverage sector.

VICKY: That's a wise career move.

CHEF: I think so.

DENISE: Can I just get my food, please?

VICKY: Oh, I'll do it.

VICKY: Compiler.

MACHINE: Compiler selected. Translating from source code to object code. All in one go. Compilation complete. Processing order.

DENISE: It's working.

CHEF: That's nice beef.

DENISE: What is that?

VICKY: One pea?

DENISE: Yeah, but ...

CHEF: Potatoes look good.

DENISE: Aaargh!

CHEF: No!

MACHINE: Enjoy your meal.

CHEF: That one's on the house.

VICKY: We need to use Interpreter instead. It's a different type of translation.

DENISE: What's that gonna do?

VICKY: It translates and executes your order one line at a time. That way, if it goes wrong, we can see exactly where.

MACHINE: Choose translation type.

VICKY: Interpreter.

MACHINE: Interpreter selected. Translating from source code to object code.

VICKY: Roast beef first.

MACHINE: Interpretation complete. Processing order.

VICKY: Well, that works. Now the next line. Pea?

MACHINE: Translating from source code to object code. Interpretation complete. Processing order.

DENISE: There's our problem.

VICKY: Not the only problem. Let it translate the next line. It says 'smashed potato'.

DENISE: Oh, instead of mashed!

MACHINE: Translating from source code to object code. Interpretation complete. Processing order.

CHEF: Tell me it's not gonna smash another one of my plates.

VICKY: Erm.

DENISE: Aargh!

CHEF: Shut it down! How about some chips?

DENISE: So, we just need to fix those two lines.

VICKY: I'll do it.

MACHINE: Choose translation type.

VICKY: Assembler.

MACHINE: Assembler selected.

DENISE: What's that do?

VICKY: It uses assembly language, which is sort of halfway between high-level language and low-level language.

DENISE: Okay.

VICKY: Written in abbreviated English but structured like machine code.

DENISE: Okay.

VICKY: Assembly language uses abbreviations known as mnemonics, so it's harder to learn.

DENISE: Mnemonics? Which website were you looking at exactly?

VICKY: Bitesize.

CHEF: Great site.

VICKY: Yeah!

DENISE: Can I just get my food, please?

MACHINE: Assembler selected.

VICKY: Beef 1, pea 25, mashed spud 1, gravy 1.

DENISE: That sounded dead clever.

VICKY: It was.

MACHINE: Translating from source code to object code. All in one go. Assemble complete. Processing order.

(SQUELCH)

MACHINE: Enjoy your meal.

DENISE: I'm speechless.

VICKY: For once!