technocamps

Can computers think?

VOTE NOW!

Do you think computers can be intelligent?

We need a volunteer

- Someone who likes chatting
- Someone with plenty to say
- Who's going to go out now with one of the helpers ...



Who are we talking to?

- Are they a schoolkid or an adult?
- What questions should we ask to find out?
- Stick up your hand if you've got a good question.

If you don't know the person...

- How can you tell if the person you're talking to is who they say they are?
- Sometimes it is easy...
  - ... just ask them a question only they could answer
- But sometimes you don't have that question
- If you can't tell whether you're talking to an adult or a child
- Maybe you're actually talking with a computer?

Chatbots

- Chatbots are computer programs that can have a conversation
- There are lots of types of chatbot
- Most you type words into, and they type words back
- Some use speech recognition or speech synthesis to do things that seem more real
- Try a chatbot now http://www.cleverbot.com

What does “intelligent” mean?

- You are intelligent. We know this for sure.
- A rock is not intelligent. We are pretty sure of this too.
- But what about things in-between? Let's play a game...

What makes some of these things intelligent and some not?

- Can you work out what it is about the things that are **Definitely Intelligent** that makes them intelligent?
- How about the things that are **Definitely not intelligent**?
- Are there any things in the middle?

Get into a group with a couple of friends... and try to work it out.

Some ideas...

- Talking
- Moving
- Reacting
- Repeating things
- Language
- Forming relationships
- Being scared
- Being predictable
- Not communicating
- Not moving
- Emotions
- Being boring
- Memory
- Creativity

Could computers be intelligent?

- What's the most impressive thing you know a computer can do?



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Hands up if you think A is a human

- A: Are you alive?
- J: Perhaps.
- A: Why the uncertain tone?
- J: Everything is uncertain except for five facts.
- A: The whole universe?
- J: And we both might just be some ones and zeros in the computer memory.
- A: Do you dream?
- J: Yes, I dream.
- A: It goes without saying. Do you remember your dreams?
- J: I remember them vividly.
- A: What do you remember about it?
- J: I think I shouldn’t flirt with a robot.

Can computers be intelligent?

- Alan Turing said that this was the wrong question to ask
- If you can have a conversation with a computer...

  ...and you can't tell if it's a computer or a human

  ... then we have to say that the computer is intelligent.



About Alan Turing



- Alan Turing was born in 1912.
- He was a mathematician, a code-breaker, and one of the world's best ever computer scientists
- Every computer you ever use has been influenced by Turing's work
- He died, young, in 1954

The Loebner Prize

- Every year there is a contest to find the best chatbot
- This year the contest was at Bletchley Park (as part of the Turing 2012 celebrations)
- The winner is the “most human” computer program
- They also give a prize for the “Most human human”!



2012 prizes:

US$ 5000 + Annual Bronze Medal

Second Prize US$ 1000

Third Prize US$ 750

Fourth Prize US$ 250

What are good questions to ask a computer program?

- Imagine you get to talk to one of these computer programs
- How would you trip it up?

- In your group come up with **3 questions** to ask a chatbot
- Try to think of questions that will help you work out if it is a program or a real person.

Jabberwacky

- Jabberwacky is a chatbot you can try out now.
- http://www.jabberwacky.com/
- Try out your three questions
- Note down if it says anything silly or unusual
- Try having a normal conversation with it.

Cleverbot vs Cleverbot

- Here's another example of a chatbot vs a chatbot:
- http://www.youtube.com/watch?v=WnzlbyTZsQY
- Would you be convinced you were talking to something intelligent if you chatted with either of these ?

Cleverbot

- Cleverbot is another chatbot you can try out now.
- http://cleverbot.com/
- Try out your three questions
- Note down if it says anything silly or unusual
- Try having a normal conversation with it.

How did that go?

- What was the best question you asked?
- Who's cleverer, Cleverbot or Jabberwacky?
- Could you have a normal conversation with either of them?

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Is rule following enough?

- With many chatbots, there is a set of rules and the chatbot follows them
  - Given some input it gave an output
- When humans speak there is something that goes on in between input and response (most of the time!)

- What do you think that is?

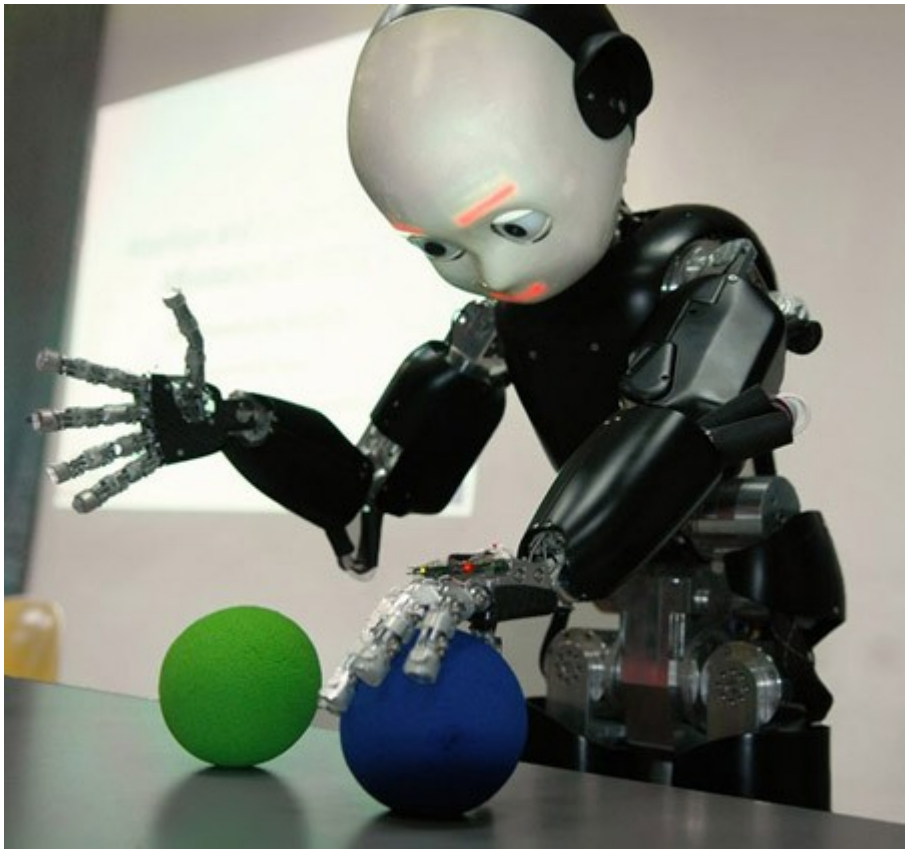
Try following some rules

- We need a volunteer to be a robot
- Can you program this robot to walk around the room?
- Use instructions like “Go forwards a step” and “Turn right 90 degrees”



Chatbots don't have bodies

- They don't see things or move around
  - Some of them can learn things though
- Does having a body make things different?
- Are robots more intelligent?



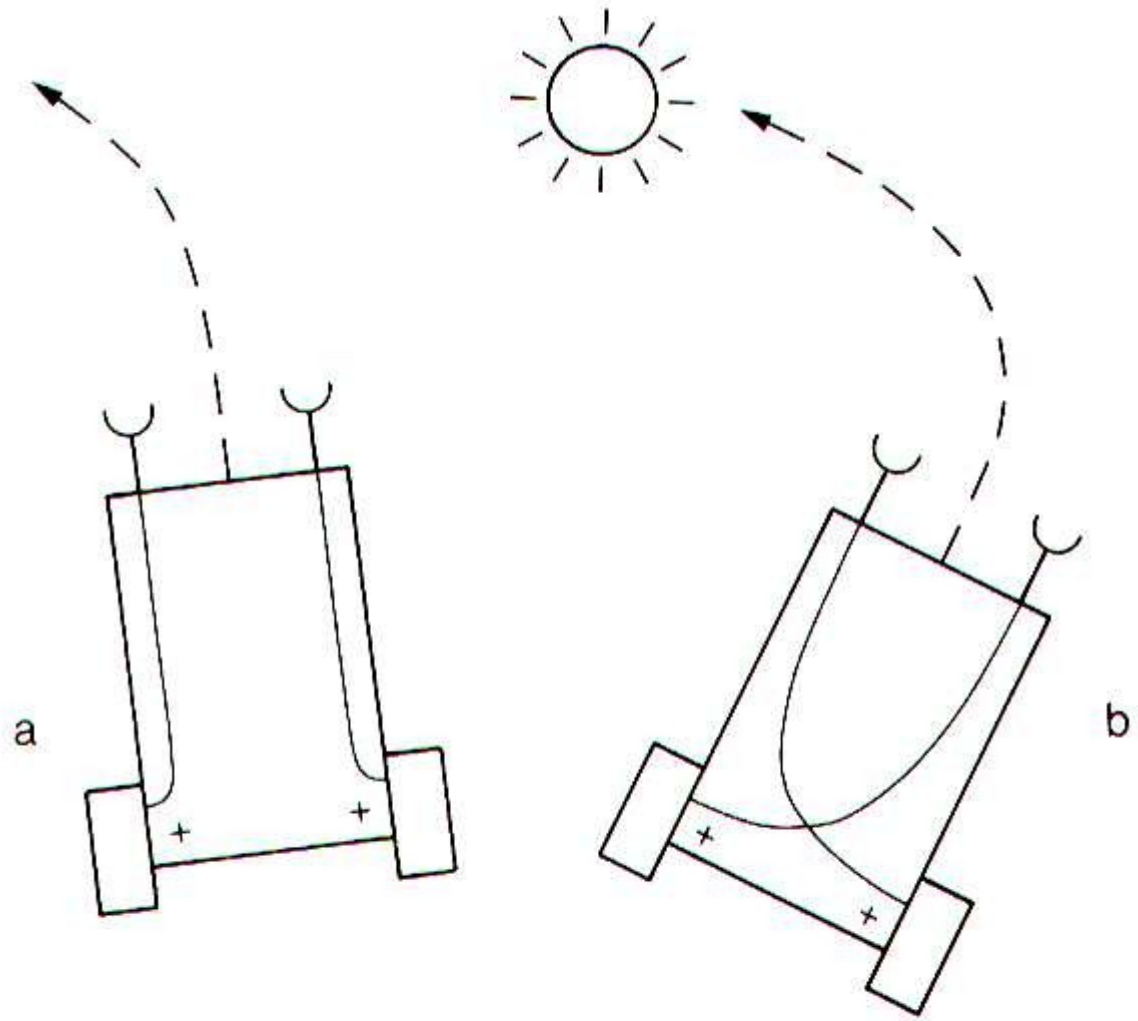
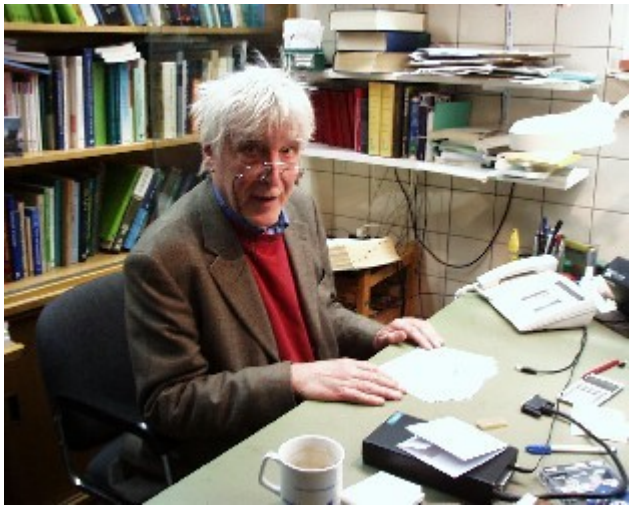


Figure 3

Vehicles 2a and 2b in the vicinity of a source (circle with rays emanating from it). Vehicle 2b orients toward the source, 2a away from it.

Valentino Braitenberg

- Vehicles with simple connections between sensors and motors can seem to have remarkable properties
- Alive
- Cowardly
- Aggressive
- Exploring
- ...



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