

CS110 Introduction to Computing

Dianna Xu

Some material in this presentation is taken from Prof. Sanjeev Arora's lectures at Princeton University.

CS110: Introduction to Computing

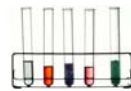
- Instructor: Dianna Xu
- Teaching Assistants: TBA
- Labs: Each TA will give 4 hours/week
- Text: Learning Computing with Robots (@Bookstore by Thursday)

What is computing??



Computing is...
A new way of looking at the world.

Example: Google



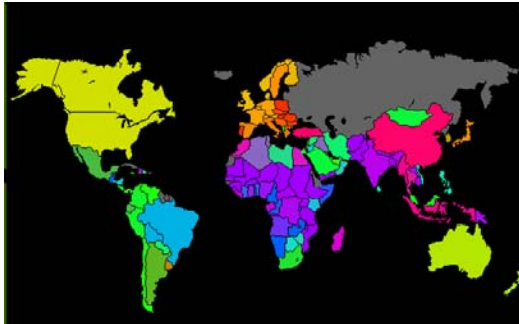
Old
Biology



New Biology



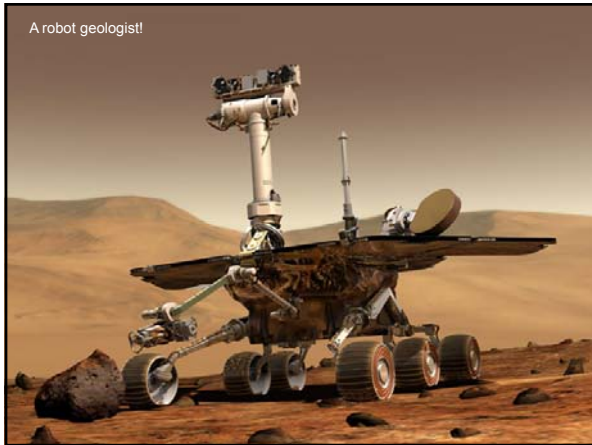
Example: Economics



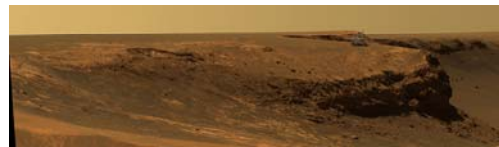
Do the Questionnaire now...



A robot geologist!

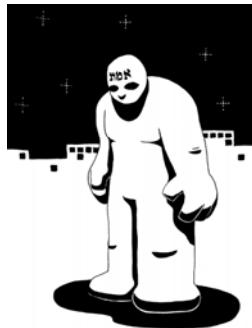


Mars: What's going on?



Ancient dream: "Breathe Life into Matter"

In Jewish folklore, a **golem** (גולם, pronounced *goiem*) is an animated being created entirely from inanimate matter.

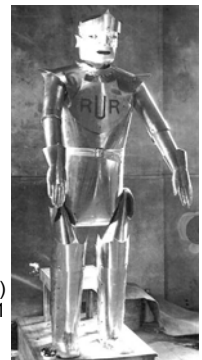


Has made its way into popular culture....

Popular Culture



Frankenstein
Mary Shelley, 1818



RUR (Rossum's Universal Robots)
Karel Capek, 1921

Robots...

"Breathe Life into Matter"
An Alternative perspective

"Breathe life into matter"
A Computational perspective

"I love my ergonomic office chair. It reclines, has heated vibrating massage, and provides electro-shock therapy at the end of a stressful day!"

Make matter do useful interesting things on its own.

Breathing life into matter...

"In the morning paper, I can read the weather report as well as the stock quotes. But when I look out of my window I only get a weather update and no stock exchange info. Could someone please fix this bug in my environmental system? Thanks."



What is a robot?

- >a machine that looks like a human being and performs various complex acts (as walking or talking) of a human being;
- also a similar but fictional machine whose lack of capacity for human emotions is often emphasized;
- and also an efficient insensitive person who functions automatically
- >a device that automatically performs complicated often repetitive tasks
- >a mechanism guided by automatic controls

From: Merriam-Webster Online Dictionary

A robot is...

a mechanism guided by automatic controls

