ESC101
Introduction to Computing

WELCOME

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ACKNOWLEDGEMENTS

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- MS Office clip art, various websites and images

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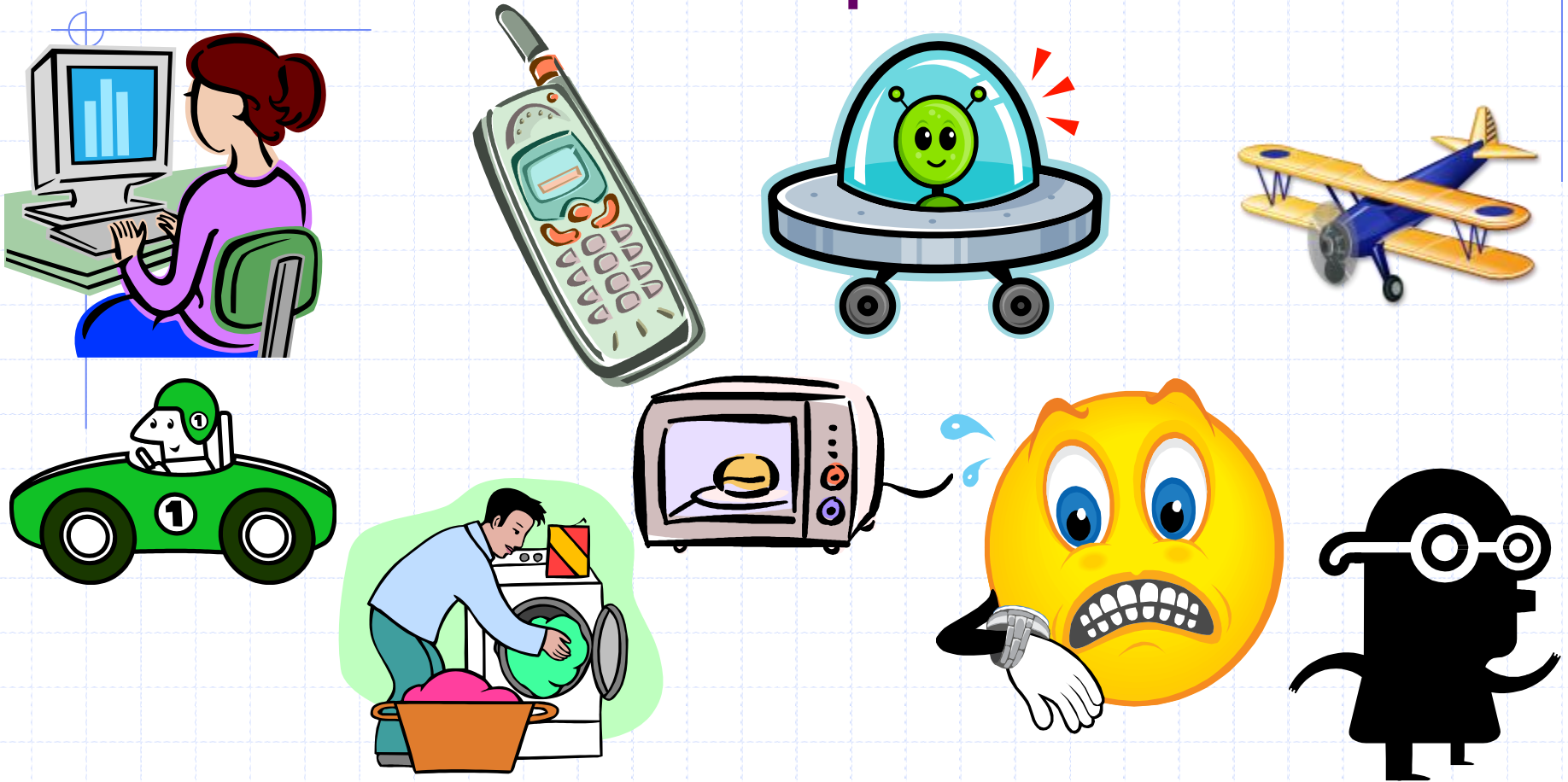
The Course

➢ The course teaches you how to solve problems using the computer.

➢ No prior exposure to programming is needed.
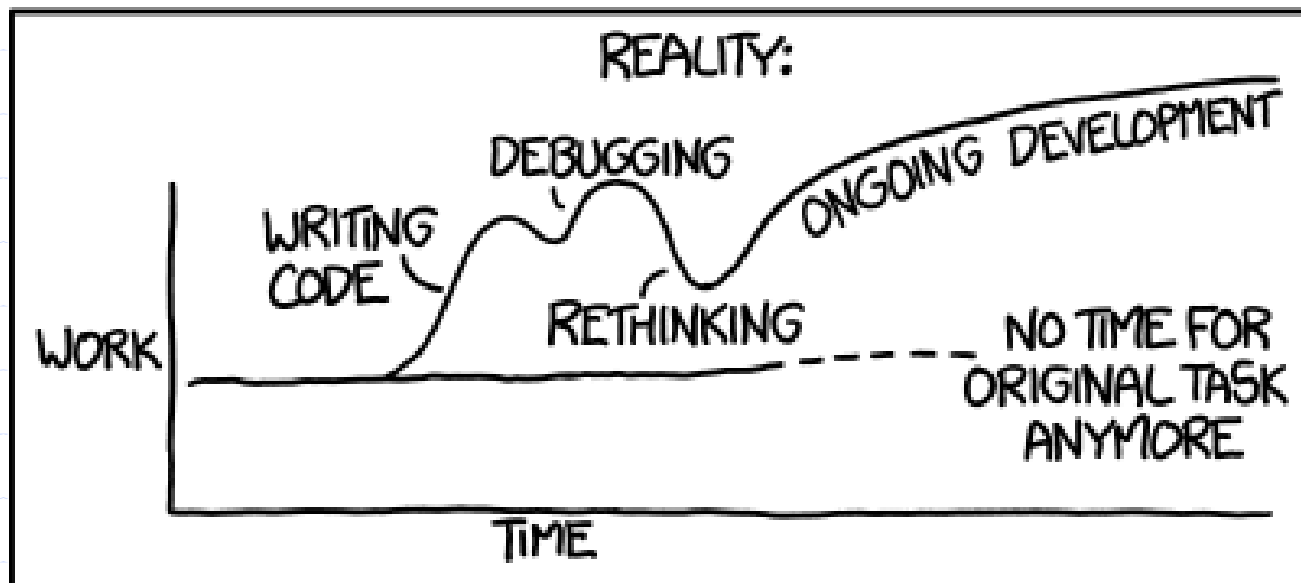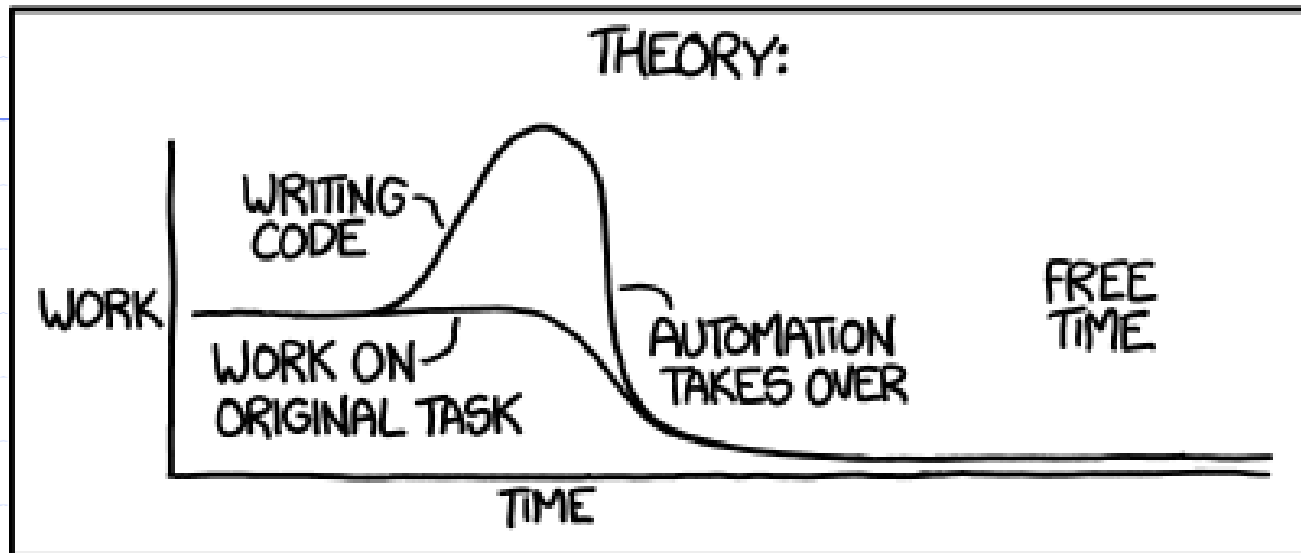
What is a Computer?

Almost all electronic gadgets today are Computers. They are everywhere!

Why am I doing this course?

- Every discipline uses computing: All branches of engineering, sciences, design and arts.

- Understand how computers work

- Write your own programs
  - Automate boring repetitive stuff!

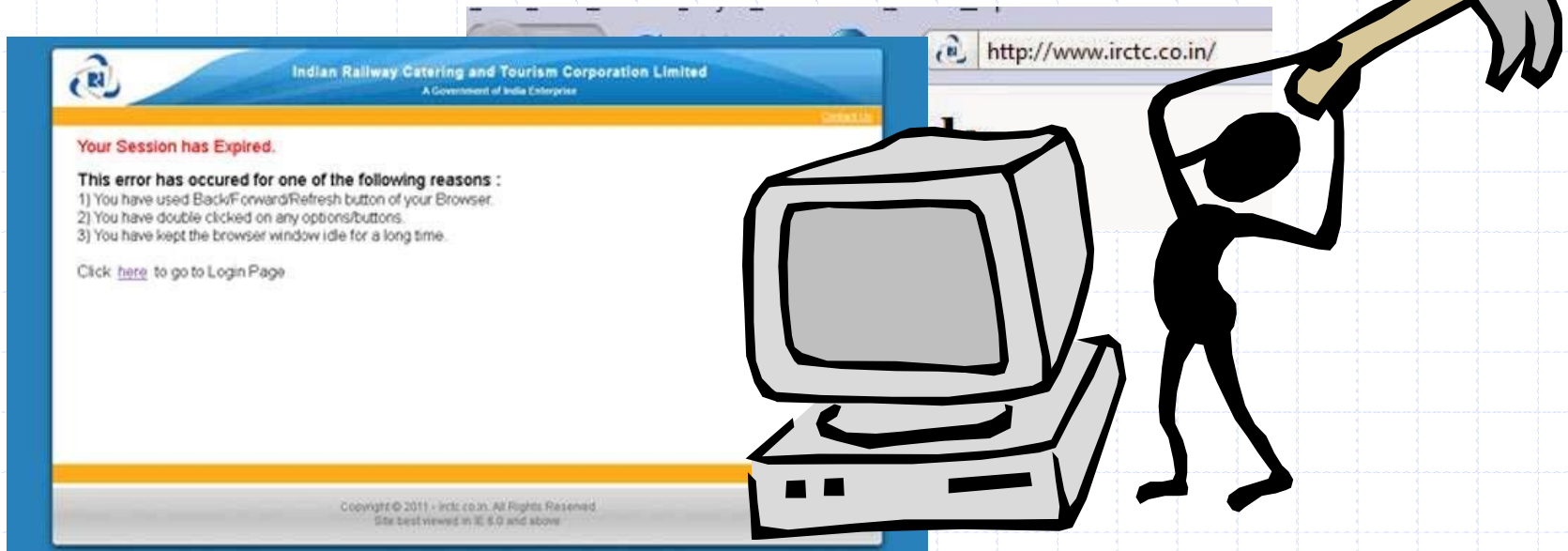"I SPEND A LOT OF TIME ON THIS TASK.
I SHOULD WRITE A PROGRAM AUTOMATING IT!"

Source: http://xkcd.com/1319

Process of Programming: Step 1

- Define and model the problem. In real-life this is important and complicated.
  - For example, consider modeling the Indian Railways reservation system.

Process of Programming

➢ In this course, all problems will be defined precisely and will be simple
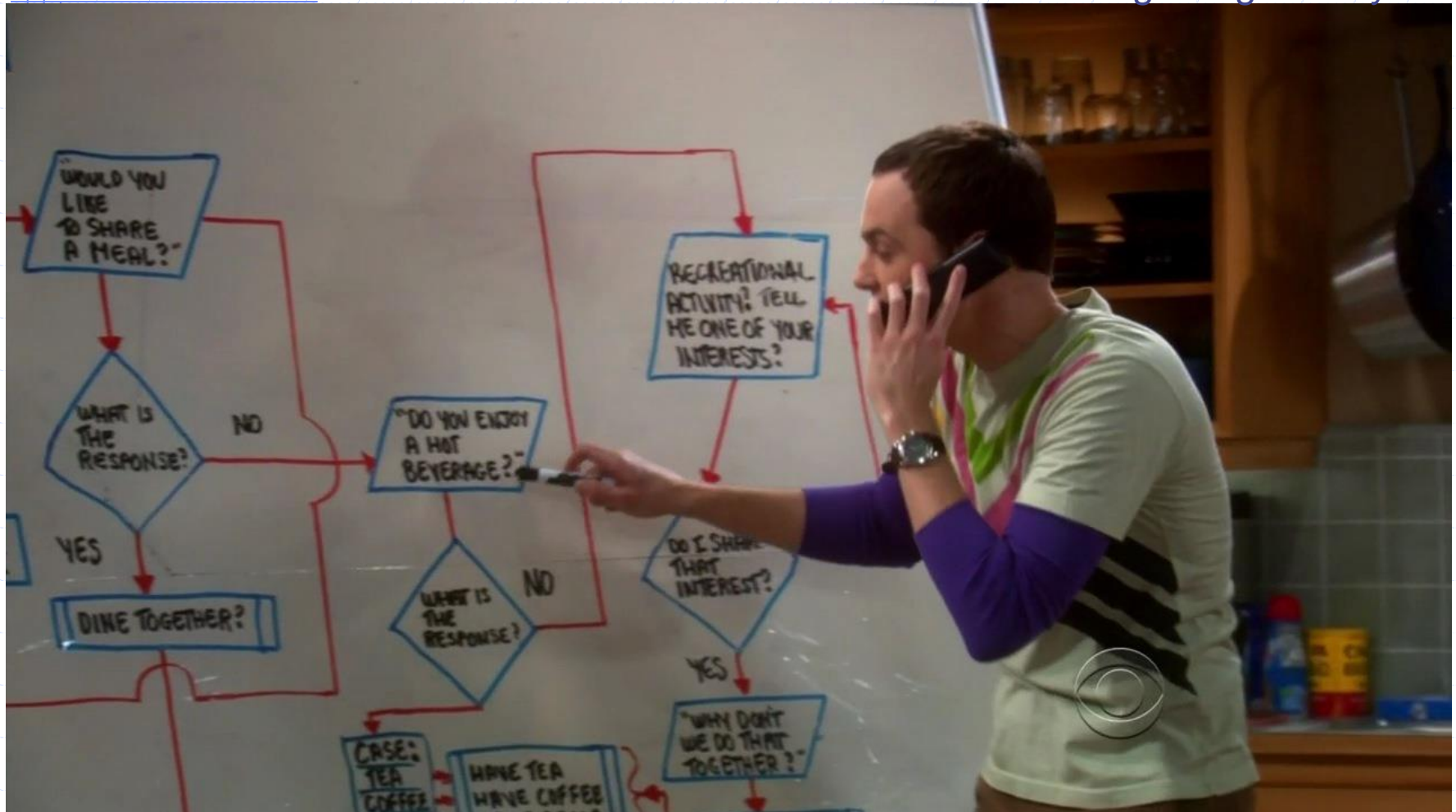
Process of Programming: Step 2

➢ Obtain a logical solution to your problem.

➢ A logical solution is a <u>finite</u> and clear <u>step-by-step</u> procedure to solve your problem.

➢ Also called an <u>Algorithm</u>.

  ➢ We can visualize this using a <u>Flowchart</u>.

  ➢ Very important step in the programming process.

Friendship Algorithm/Flowchart

Esc101, Programming

Algorithms in real-life

◆ Any step-by-step guide. e.g. Assembly instructions for a make-it-yourself kit.

http://www.gocomics.com/calvinandhobbes/2009/06/02