



ESC101: Introduction to Computing

Course Logistics

Instructor Details

Prof. Nitin Saxena

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Dept of CSE

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The Course

- The course teaches you how to solve problems using the computer.
- No prior exposure to programming is needed.

Lectures, Tutorials

- ◆ Class is divided into 12 sections.
 - B1, B2, ..., B12
- ◆ Lectures common for all
 - Mon, Wed, Fri, 12 noon – 1 pm, L-7
- ◆ Tutorials
 - Tue, 12 noon – 1pm, Tutorial Block.
 - B3-B12 in T103-T112, B1-B2 in T203-T204.

Tutorials

- ◆ You can ask questions and clarify doubts regarding lecture material.
- ◆ Examples illustrating lecture material will be covered.
- ◆ There can be announced or un-announced quizzes in the tutorials.
 - Lectures may also have surprise quizzes.

Labs

◆ Schedule: 2-5 pm

- B1, B2, B3 : Monday
- B4, B5, B6 : Tuesday
- B10, B11, B12: Wednesday
- B7, B8, B9 : Thursday
- Others: Meet me or Email me

◆ Location:

- Core Labs, Room-301 (near DoAA building)

◆ First labs exp. 30-31 Jul (Thu-Fri).

Labs this week (30th-31st)

◆ Special Schedule:

- B7-B9 : Thursday 2-3:30pm
- B10-B12 : Thursday 3:30-5pm
- B1-B3 : Friday 2-3:30pm
- B4-B6 : Friday 3:30-5pm
- Others: Meet me or Email me

◆ Location:

- Core Labs (near DoAA building)

◆ Warm-up Labs!

Labs

- ◆ Friday/Saturday/Sunday : Could be used to make up for lab days lost due to holidays.
- ◆ There will be Teaching Assistants (TAs) to help in the labs.
- ◆ In each lab, you will be given a few problems to solve.
 - Students must work on their own.
 - Discussion is allowed, but **sharing of code in any form is NOT permitted.**

Lab Assignments

- ◆ Lab assignment will be posted on the day of the lab, at 2 PM.
 - It has to be submitted by 5 PM
 - First week lab assignment is to get used to the Lab Environment.
- ◆ In addition, there will be practice problems.
 - Can be done at your own pace.

Weightage (Theory)

◆ Quizzes: 15%

- Normal quizzes: total weight = 5%
 - ◆ Surprise quizzes!!
- 2 Major Quizzes: each 5%.

◆ Midterm: 15%

◆ Final exam : 30%

Weightage (Programming)

◆ Labs: 15%

- Weightages of later labs may be more. (First lab: 0 weight)
- Approx **80%** of the lab questions will count towards grade.
- **NO MAKEUP** lab for absentees.

◆ Lab exams: 25%

- Mid-term lab exam: 10%
- End-term lab exam: 15%



Copying

- ◆ Copy at your own risk
 - in any component (lab/quiz/exams/lab exams).
- ◆ If you are caught, you get **E** or **F**.
 - Case reported to DoAA/SSAC
 - **No warning or second chance**
 - **All parties involved** in copying will be held equally responsible. Copying from internet is penalized equally.



Copying

- ◆ Read-protect your directories so that others cannot copy from your directory.
- ◆ Do not share your CC password with friends.
- ◆ Do not leave printouts, notes etc. containing your code unattended

Guard your code as closely as you would guard this →



Absentee Policy (Default)

When a student is absent from a quiz, lab or exam, and has approval for the leave from SUGC/Instructor

- ◆ Minor quizzes: No makeup. Best $n-1$ quizzes to count.
- ◆ Major quizzes: Prorated (extrapolated) from the nearest future midterm or final exam.
- ◆ Labs: No makeup. Best 80% (approx.) labs will count.
- ◆ Mid sem: Prorated by final score.
- ◆ Mid term lab exam: Prorated by final lab exam.
- ◆ Final lab exam: Makeup, as per DOAA's schedule.
- ◆ End sem: Makeup, as per DOAA's schedule.
- ◆ Policy may change on need basis.

Course Websites

- ◆ Course web site
 - <http://canvas.cse.iitk.ac.in/>
 - Login instructions already sent by email
- ◆ Lab web site
 - <http://esc101.cse.iitk.ac.in>
 - Login: your full iitk email address (xyz@iitk.ac.in)
 - Password: Same as that for your iitk email
- ◆ Sites available only from within IITK

Course Materials

- ◆ All course materials, including lectures, exam solutions, quiz solutions etc., will be posted on course web sites.
- ◆ Use canvas for interaction
 - Allows instructor, tutors and your classmates to answer any issues

Textbooks

- ◆ There are many books on C.
 - Schaum's Outline of Programming with C by Byron Gottfried, McGraw-Hill India.
 - Programming in ANSI C by Balaguruswamy.
 - The C Programming Language by Kernighan and Ritchie, Prentice-Hall India. (This is a standard reference to C. Slightly advanced though.)
 - Any other standard book on C would also be good.
- ◆ It is recommended that you have a book and refer to it throughout the semester and beyond.
 - You are encouraged to bring book to the lab.

Other Information

- ◆ DoAA has scheduled **Extra Classes**
 - Saturday, Aug 22nd : **12 – 1 PM**
 - Saturday, Aug 29th : **12 – 1 PM**
- ◆ For **Major Quizzes & Lab Exams** check canvas-site.

29Jul	Introduction to the system
03Aug	Simple Expressions, printf, scanf
12Aug	Conditionals
17Aug	Loops
22Aug	Functions
28Aug	Arrays
07Sep	Strings
18Sep	(* Mid semester Exams, No Lab *)
21Sep	Matrices/ Multi-dimensional Arrays
28Sep	Recursion
05Oct	Pointers
14Oct	Sorting
19Oct	(* Mid semester Break, No Lab *)
26Oct	Structures
02Nov	Data Structures/Algorithms
09Nov	File I/O, advanced topics

Mailing...

- ◆ Please make sure you mention your roll number and section in the emails
 - Prefer using discussion feature of canvas

Lecture mode?

◆ Slides?

◆ Blackboard?

ESC101

Introduction to Computing

WELCOME

Nitin Saxena
Dept. of CSE
IIT Kanpur

ACKNOWLEDGEMENTS

➤ All previous instructors of Esc101 at IIT Kanpur. (esp. Dr.Ganguly & Dr.Karkare)

➤ MS Office clip art, various websites and images

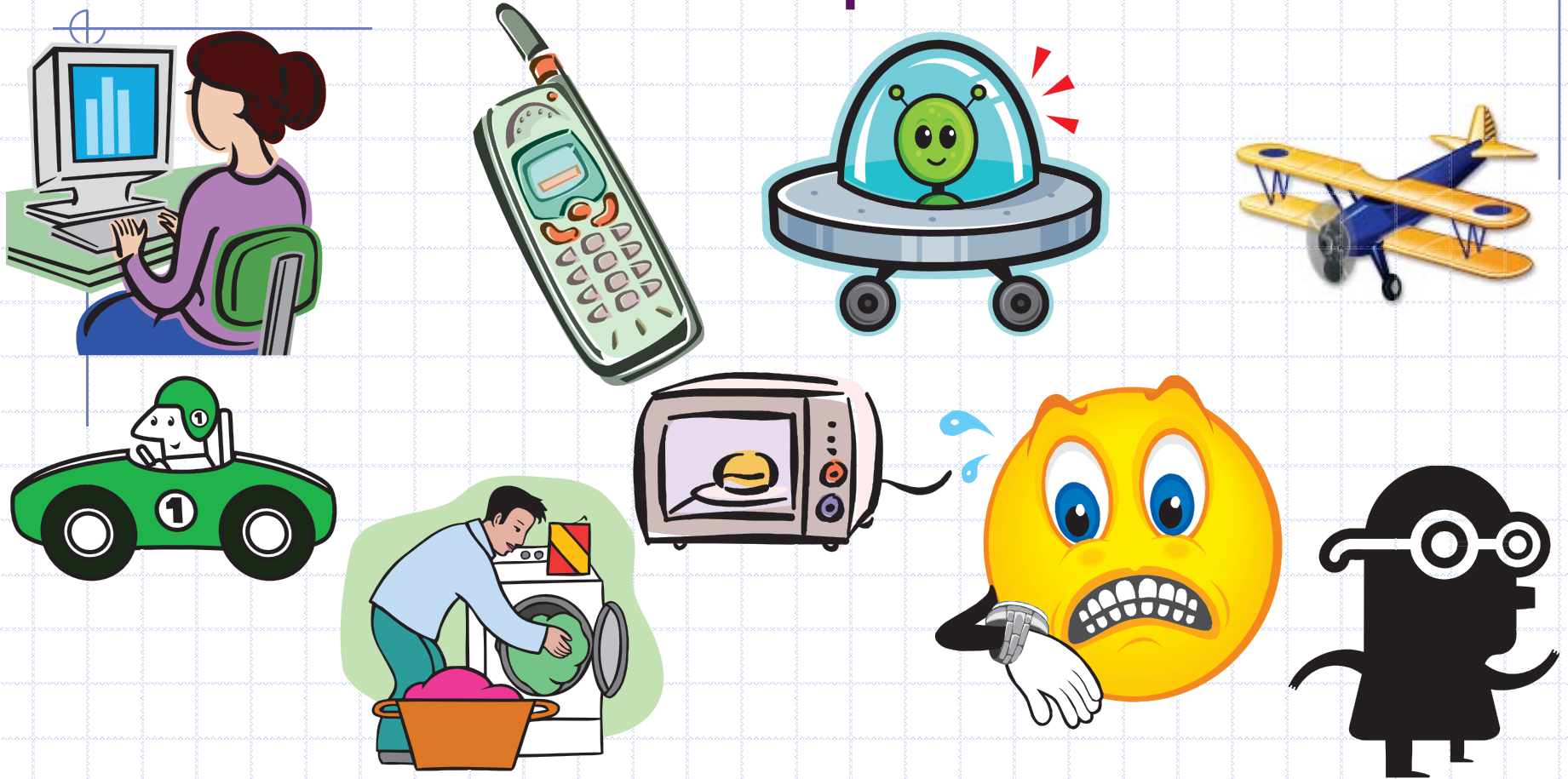
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The Course

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- No prior exposure to programming is needed.

What is a Computer?



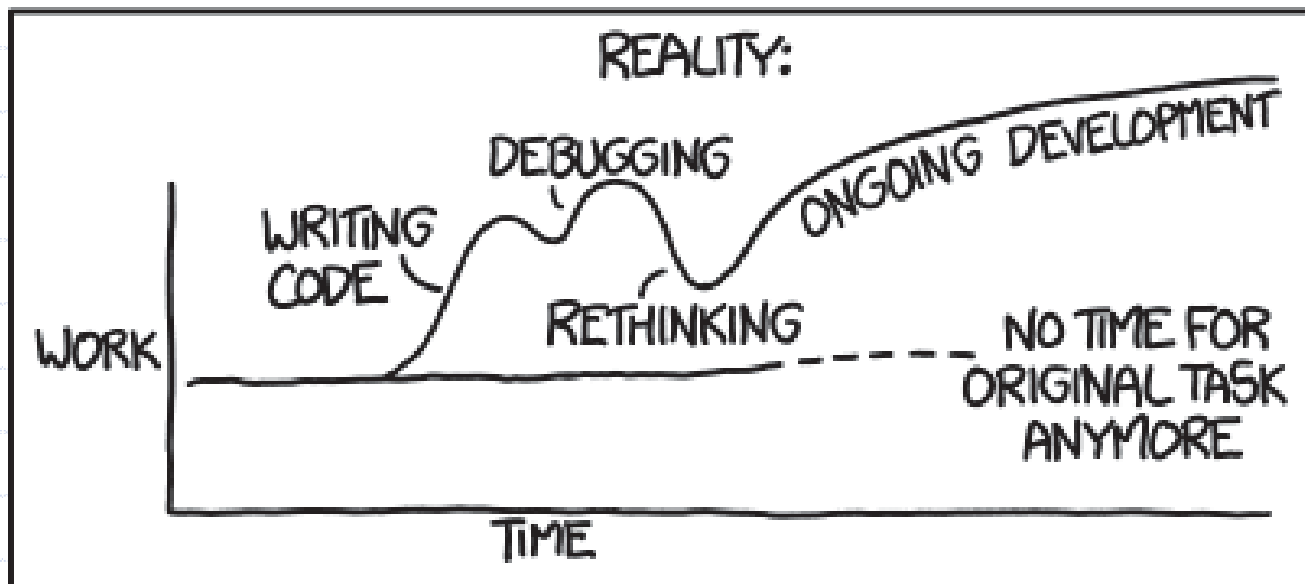
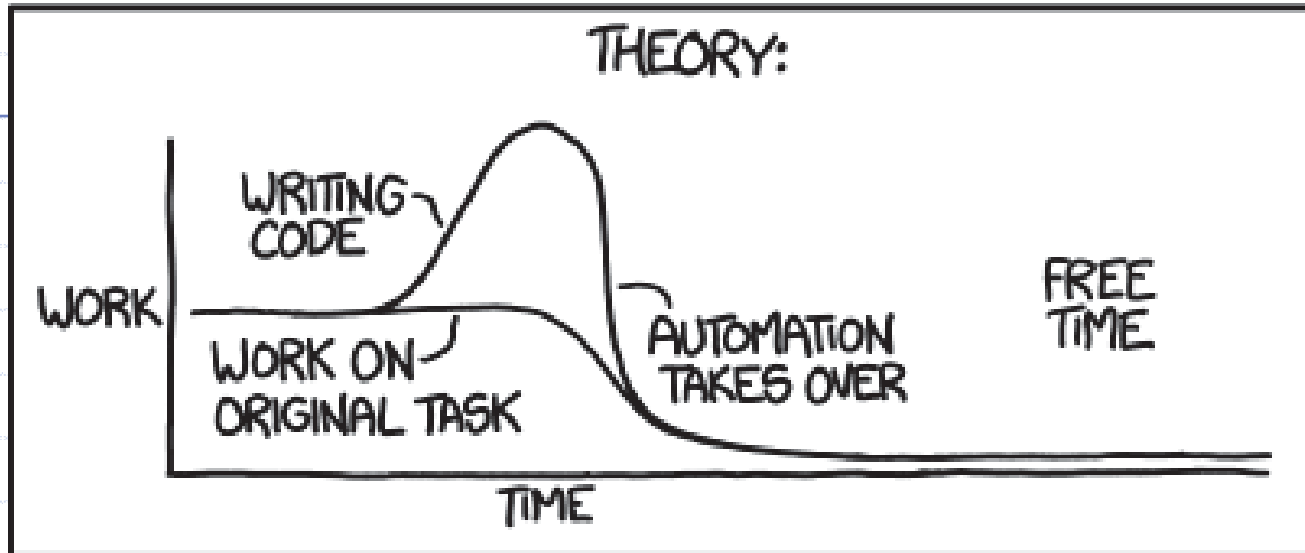
Almost all electronic gadgets today are Computers.
They are everywhere!

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!



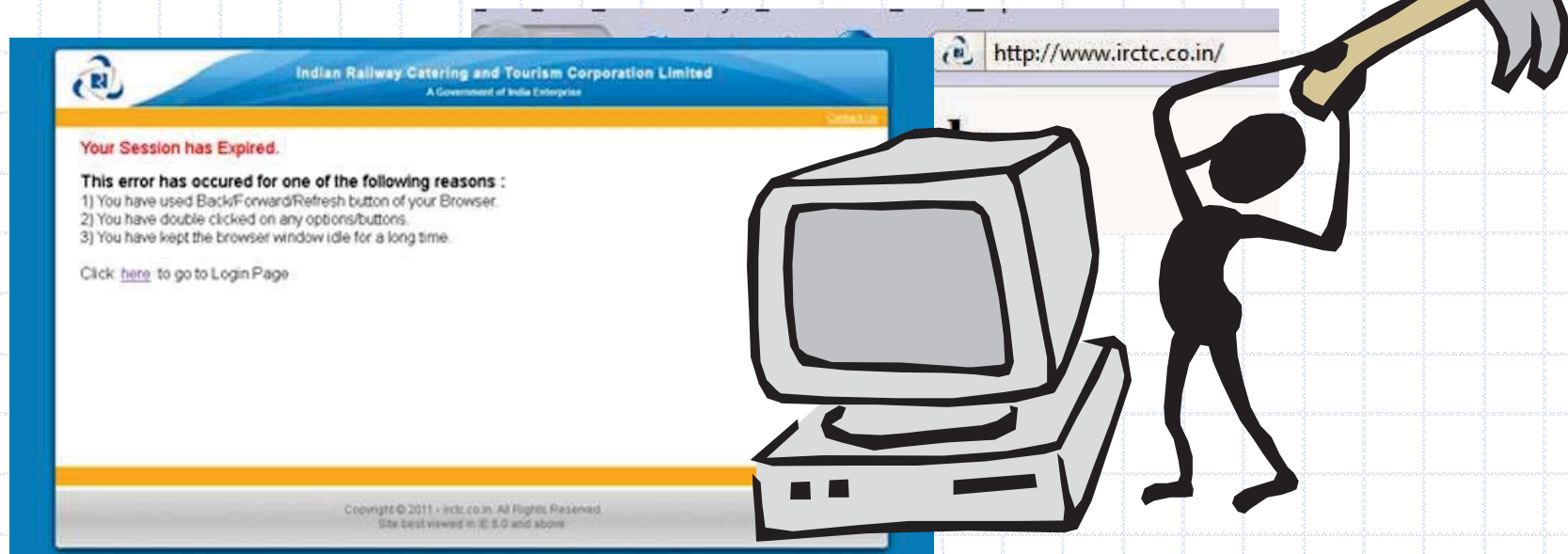
"I SPEND A LOT OF TIME ON THIS TASK.
I SHOULD WRITE A PROGRAM AUTOMATING IT!"



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

