

# Computer Programming

Prof. Deepak B Phatak

Prof. Supratik Chakraborty

Department of Computer Science and Engineering

IIT Bombay

Session: Introduction

# Recap

---



- Computer is a machine
  - It can operate only when a 'program' is given to it
  - Program is a set of instructions
    - Computer first reads and understand the entire program
    - It then executes the instructions in specified order

# Overview of This Lecture

---



- Instructions and Procedures
- A recipe for preparing Indian tea
- Procedure for a cashier in bank

# Instructions, Procedures

---



- We often instruct people to do something
  - Please get me a glass of water
  - Please keep this book on the shelf
- Written Instructions are needed when
  - A task is complex, needs many steps to be carried out
  - Different people have to do the same task in exactly the same way

# Recipe for preparing Indian Tea

---



- Take a cup of water in a vessel
- Add two teaspoons sugar, one teaspoon tea leaves, milk
- Boil for 3 minutes
- Strain into a tea kettle
- Serve in a cup

# (Wrong) Recipe for preparing Indian Tea

---



- Take a cup of water in a vessel
- Boil for 3 minutes
- Add two teaspoons sugar, one teaspoon tea leaves, milk
- Strain into a tea kettle
- Serve in a cup

# Quiz

---



You will serve (a) Good Indian Tea (b) Hot water  
(c) Some funny looking mixture (d) None of these

# Analysis of the Quiz answers

---



- Since the water was not boiled with all ingredients, you will certainly not get the Good Indian Tea. (a) is wrong
- You did add ingredients just before straining, so you will not have plain hot water definitely. (b) is wrong
- Some colour from tea leaves, and some sweetness from Sugar will be added. (c) is correct
- Since (c) is correct, (d) is obviously incorrect



# A Banking Procedure

---



- An Old Bank maintains account information in ‘Ledgers’
- Customer comes to withdraw money from account
  - Presents a cheque or a withdrawal-slip
  - Should be paid cash if balance is adequate
  - Appropriate entries must be made in the ledger
- A written procedure is used by the cashier

# A job-card for Bank Cashier



- Greet the customer and collect the instrument presented.
- Keep the instrument on your right, and keep a paperweight on it.
- Check balance in Account ledger
- Write a 'debit' entry in the ledger, update balance amount
- Count cash, and hand it over to the customer.
- Thank the customer for banking with your bank.

# Summary

---



- A written procedure
  - Must be first fully read and understood
  - Then all steps must be executed in the specified order