Welcome to CS0.101 Computer Programming

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Admin Stuff

Teaching Team

Instructors (3): Girish Varma, Abhishek Deshpande, Sandeep Nagar

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How to ace this course?

12 Weeks Course (excluding exam/holiday/prep weeks)

Session	Time (hrs)	Marks (%)
3 Lectures	3 x 1	-
1 Tutorial	1 x 1	-
1 Lab	1 x 3	2
Reading/Practice	3	
Assignment	3	2.5

Total Time per week: 13 hrs

Total Problem solving per week: 3 (Lab) + 2 (Tut) + 2 (Assgn) 2 (Practice) = 9

Evaluation

Component	Marks (%)	
Lab	10 x 2	Best 10 of *
Assignments	6 x 5	6 in No.
Mid Term	8 + 12	Written + Lab
End Sem	10 + 20	Written + Lab

80% marks for programming problem solving.

Solve 100 problems over the entire course.

Websites

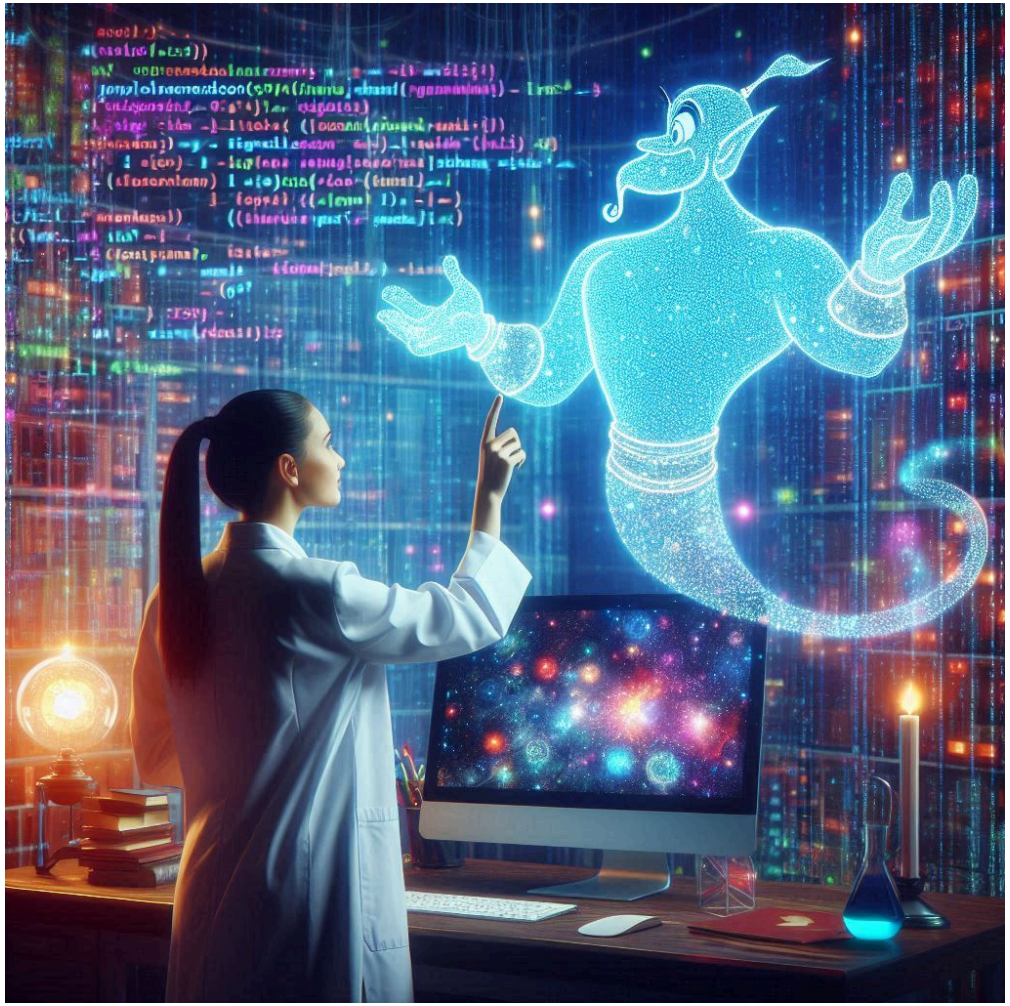
Course Website: https://cpro-iiit.github.io/
All lecture/lab/tutorial material is posted. Additional information, links to other courses/tutorials on the web.

Autolab Problem Server: https://pingala.iiit.ac.in/
All lab/assignment/tutorials problems released here. More about this in the lab.

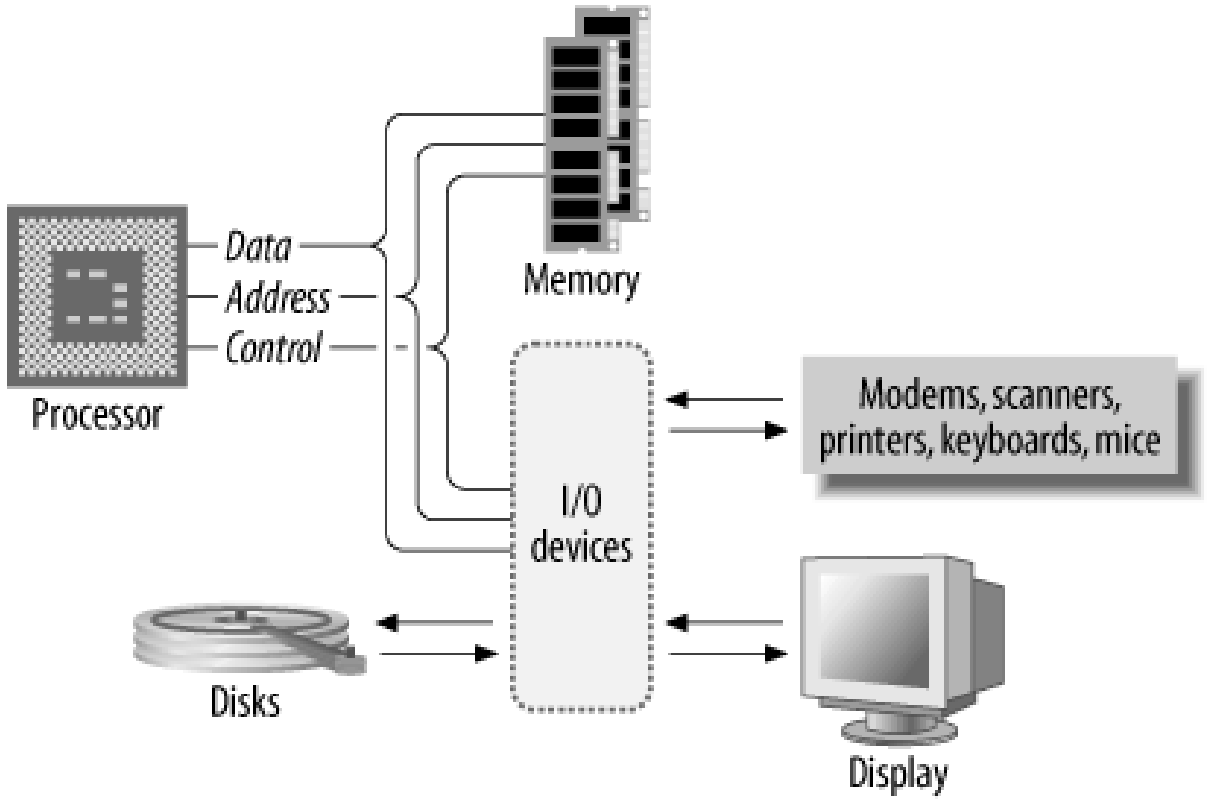
Introduction to Computer Programming

What this Course is about?

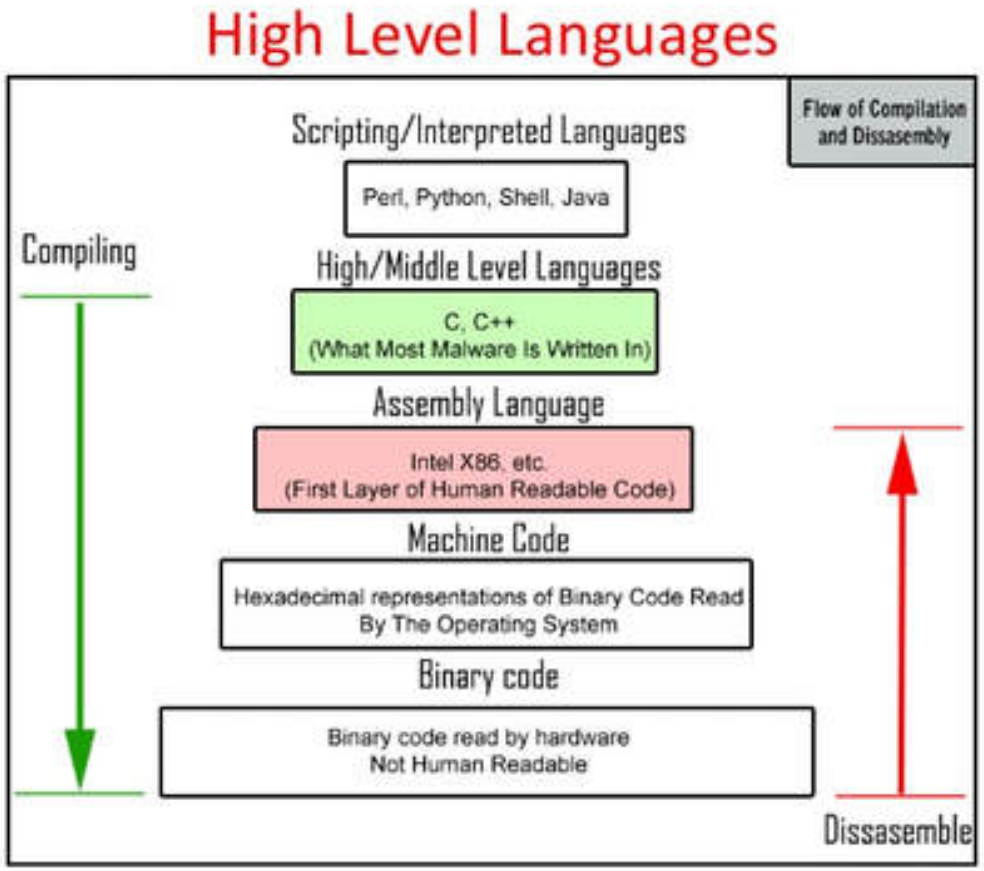
- Genie needs to be instructed precisely, otherwise it will not respond!
- It will precisely do, what you told it to do! If you meant something else and that was your problem.
- Genie only understand a language, which has no scope for confusion/ambiguity.



Basic Computer Organisation



Programming Languages



Intro to C Programming

Hello World! C Program

`main.c` file

```c
// 1. This line is a comment that is ignored by compiler.

// 2. include standard library for input/output. Allows to print to shell
#include <stdio.h>

// 3. execution start inside this **function** named main.
int main()
{ // start of main function

    // 4. prints to the shell
    printf("Hello, world\n");
    return 0; /* 5. returns integer 0 */

} // end of main function
```

Running the Program

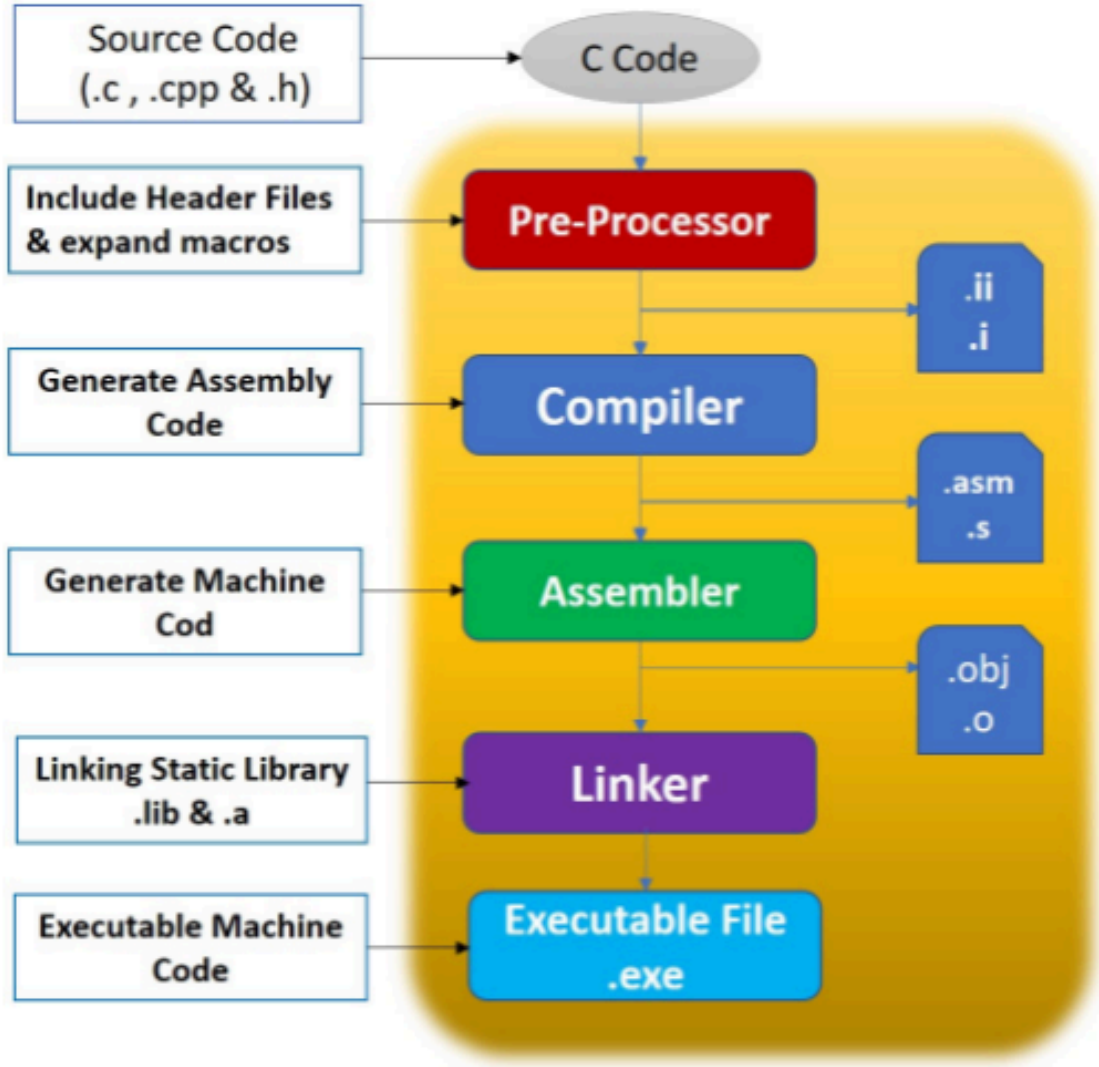
1. Run gcc compiler to get executable file `main`

   ```
   gcc main.c -o main
   ```

2. Run the executable `main`

   ```
   ./main
   ```

What just happened?



Using Makefile to do it together

1. Create a file `Makefile` (one time step)

```
// Makefile
run:
    gcc main.c -o main
    ./main
```

2. run `make run`

Next time, after you modify `main.c`, only `make run` needs to be done.

Reading

Chapter 1 upto Section 1.4,

Chapter 2 upto Section 2.2

Computer Science: A Structured Programming Approach Using C

Behrouz A. Forouzan, Richard F. Gilberg

Fundas for doing Programming!

Tresure Hunt/Dumb charades!

- Dont be afraid to make guesses!
- Dont be afraid to try out guesses!
- Failed guess gives clues. Learn from them!
- You will eventually learn to make more clever guesses.

Thanks