Programming and Data Structures Lab

Section 7

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Course Page

http://cse.iitkgp.ac.in/~pallab/course/PDS%20Spring%202020/index.html

Rules

- Class Timings: Monday (2:00 PM to 6:00 PM)
- Venue: PC-Lab-1, CIC (Takshashila)
- All assignments to be done in the lab and submitted before the lab concludes.
- Any attempts to copy will involve severe penalties
  - 0 for the assignment copied for BOTH the person copying and the person copied from.
  - Any repeat offense will result in deregistration from the course.

Computing Environment

- Dell Desktop Systems
- Ubuntu operating system
  - linux operating system for your purpose
- Text editor: **gedit**
  - For typing in your C program
- C language compiler: **gcc**
  - For compiling the C program

Logging in to the System

- Username: **sec7**
- Password: **sec7@123**
- Change it with your own new password
  - Open terminal and type **passwd**
  - Give old/existing password
  - Then give your new password
  - Confirm by giving the same again
- You should see a new screen

Handling Moodle

- Login to your account.
  - If you do not have an account let us know immediately.
- Go to:
  - Spring Semester-2020 → Computer Science → PDS Lab, Section 7 (CS19101)
  - Enroll if you haven’t already.
- Under Topic-1, click on Assignment_1.
- Download test.c

Some Basics

- Your programs will be stored in **files**
- Files are stored in **directories** (**folders** in windows)
- Directories will contain other **subdirectories** and **files**
- You may create a separate subdirectory for each of your assignments so that you can find them easily
  - But this is not a requirement for this lab, so if you want, just keep all your files in the same directory

Some Useful Linux Commands

- **pwd** – shows the current directory you are in
- **ls** – shows the contents (Files and subdirectories) of the current directory
- **mkdir X** – creates a subdirectory named **X** under the current directory
- **cd X** – changes the current directory to the directory named **X** under it
- **cd ..** – go back to the previous directory
- **mv <source> <destination>** -- renames a file
- **cp <source> <dectination>** -- copies the content of <source> to <destination>
- **man <command>** -- explains the command. Press 'Q' to quit.

Creating a Practice Directory

- On the $ prompt, type mkdir practice
- Type **ls** to verify that the new directory is created
- Change to the new directory: type **cd practice**
- Type **pwd** to verify that you are in the new directory
- We will now use this directory to store our practice files

Basic Program Execution

- Writing your program
  - Open a text editor (**gedit**)
  - Open a new file
  - Type your program in the text editor
  - Save it

- Compile and run your program
  - Open a terminal
  - Call **gcc** to compile and then run

Writing and Compiling

- **gedit** <filename>.c
- **gcc** <C-file> OR **gcc** <C-file> -o <new_name>
- ./a.out OR ./<new_name>

IMPORTANT

Every program must start with a comment containing

- Section No.
- Machine no.
- Roll No.
- Name.
- Assignment No.
- A one line description of the assignment

Example Header

```
/**********************************
 * Section : 15
 Machine No. : N
 * Roll No. : 19CS100XY
 * Name : name surname
 * Assignment No : 0
 Description : first C program
  **********************************/
```

First C Program

```
/**********************************
 * Section : 15
 Machine No. : N
 * Roll No. : 19CS100XY
 * Name : name surname
 * Assignment No : 0
 Description : first C program
  *********************************/

#include int main( )
{
printf("Welcome to IITKGP\n");
return 0;
}
```