

CS5103: Computing Lab-1



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Lab outline

- The lab will involve assignments from algorithms, operating systems primarily
- Weekly assignments will carry around 50-60% weightage
- Lab test - 20-30%
- Viva - 20-30%
- These are tentative break-ups

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- Familiar with C language?
- Familiar with Linux OS?

General information

- Preferably bring one C book
- Code must be implemented by you
- Usually 1/2 problems will be given in each class
- Sometimes you need to submit your during the class hours
- Your code must run on lab computer in Linux environment
- Do not copy code
- You must shutdown the computer at the end of lab
- No laptop, mobile will be allowed from the next class

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- Use `gedit` or `vi/vim` or `nano` or `kate` or any other text editor to edit your file

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- Use `gedit` or `vi/vim` or `nano` or `kate` or any other text editor to edit your file
- Make sure you save your file in regular interval

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- cd – Change directory, `cd <directory-name>`
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 - Try following: `cd`, `cd <dir-name>`
- man – View manual page, `man <command>`

Basic Commands

- ls
- cat
- cp
- mv
- date
- who
- more
- echo
- expr
- cd
- head
- tail
- rm
- wc
- pwd
- mkdir
- ps
- chmod
- man
- grep
- sort
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- touch
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• *command optional-arguments optional-filenames*

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```

- To compile C program, use `gcc` or `cc`
 - **Compile** your code – `gcc <file-name.c>`, for our case `gcc assgn00.c`
 - This will create `a.out` (executable) file
 - **Run** your program by typing `./a.out` at the command prompt and hit enter
 - Remove `;` at the end of `printf`, try compiling your program

Assignment – 0

- Design and develop a student information systems. For a student, the following information need to be stored.
 - Name (firstName, middleName, lastName)
 - Roll number
 - CPI
 - Date of birth
 - List of subjects taken
 - Blood group
 - Phone number
- Implement the following operations
 - Add a student record
 - Delete a student record
 - Update a student record
 - Search information using roll number
 - Search information using name
 - List of students having $CPI > x$
 - List of students having $CPI < x$
 - Search information using regular expression (name)
- Use efficient data structures to implement the above thing. Implement it using C languages. Please prepare a design document. Your code must be well documented and any invalid input must also be handled properly.

Assignment - 0 (contd.)

- You may upload your code in the given link provided in the website.
- The filename should be `assg00.c`