Algorithm Design and Analysis Lab Guidelines

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Rules

- Venue: NLHC Computer Programming Lab – I
- Class Timings: Monday (4 – 6 PM)
- All assignments to be done in the lab and submitted in Google Classroom before the lab concludes
- Download assignment from Google Class Room
- Will be uploaded 5 mins before the lab starts

Computing Environment

- VM ware
- Linux Operating System

- Type your program
  - Option1: gedit/textedit
  - Option2: terminal (vi/vim)

- C language compiler: gcc

Login to UNIX virtual system

1. Go to start and search Hyper-V manager
2. Click NXR and then virtual machine UBUNTU FLEX. Right click and connect
3. click start
4. login password: admin@123

Basics

- Your programs will be stored in files
- Files are stored in directories/folders
- You may create a folder on your name. Under that you may create subdirectory based on dates and store your files

- **Caution:** Shared machine, anyone can delete your file
- Upload the file in Google Class Room before leaving the lab
- You may keep a backup copy with you

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 your directory

- On the $ prompt, type mkdir <ID No> [mkdir 21JE00XX]
- Type **ls** to verify that the new directory is created
- Change to the new directory: type **cd 21JE00XX**
- Type **pwd** to verify that you are in the new directory
- We will now use this directory to store your practice files [If needed you may create a sub-directory under this directory based on dates]

File Creation and Saving

- In the terminal: vi Q1.c or vim Q1.c
- Save a file in vi:
  - Press esc button
  - :wq
  - Press enter

- Don’t want to save the changes in vi:
  - Press esc button
  - :q!
  - Press enter

Program Execution

- In the terminal: vi Q1.c or vim Q1.c
- gcc <c-file> ➔ Generates a.out
- ./a.out

- If you want to give name to your object file
  - gcc <c-file> -o <object-file>
  - ./<object-file>

- If you are using <math.h> header file
  - gcc <c-file> -lm

Important

Each program should start with these comment lines:

/*

Name:

ID No:

***/**

Example Header

/*

Name: Akash Hazra

ID No: 21JEXXXX

*/

Sample Program

```
/*
Name: Akash Hazra
ID No: 21JEXXXX
*/

#include<stdio.h>
#include<stdlib.h>

int main()
{
        printf("Welcome to ADA Programming course\n");
        return 0;
}
```