Shiv Nadar Institution of Eminence, Delhi, NCR

Lab sheet for CSD101 (Introduction to computing and Programming)

Semester of Implementation: Monsoon, 2024

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Instructions:

1. Once you complete the assignment, please show it to the TA.
2. Students must come to the lab and must show the assignments in the designated lab hours. Day-to-day lab performances will be recorded and will carry 15% weightage in internal assessment.
3. Lab will start in exact time. Students should enter the lab and take a seat 5 minutes before.
4. It is recommended to use LINUX platform for execution of the program.
5. Batch change to show the assignments WILL NOT be allowed.
6. Malpractice (in ANY form) will attract heavy penalties.
7. A useful link: https://www.w3schools.com/c/index.php

Lab Assignment 2

Programs based on Operators and Assignment Statements

Deadline: 25-08-2024 (11:55 PM)

Total Marks: 100

Steps to run C program

Step 1: Creating a C Source File in Linux using vi editor.

In Linux vi is one of the most popular editor to create or edit any source files.

a. Type **vi filename.c** this will open a editor.

b. To start typing the code give the command **Esc i** [press escape key once and the letter i] the word insert will appear at the left bottom of your screen now u can start typing your code.

c. Once finish typing to save the file give the command **Esc:wq** (i.e. press the escape key once the word insert at your left bottom will disappear, then hold the shift key and give colon [:] then give the command **wq** – [meaning write and quit]).

Step 2: Compiling using GCC compiler

We use the following command in the terminal for compiling our filename.c source file

$ gcc filename.c –o filename

Step 3: Executing the program

After compilation executable is generated and we run the generated executable using the below command.

$ ./filename

Lab Task 1: Write a C program to print your information like name, roll no, department, address, etc.

Example:

Input:

Name: ABC

Roll No.: CS123456

Department: Computer Science and Engineering

School: School of Engineering

Address: SNIoE Delhi, NCR

Output:

Your information is:

Name: ABC

Roll No: CS123456

Department: Computer Science and Engineering

School: School of Engineering

Address: SNIoE Delhi, NCR

Lab Task 2: Write a C program to describe your first experience as a college student and being a part of Shiv Nadar Institute of Eminence.

Example:

Input:

Write your first experience on the console

Output:

My experience as a college student are as follows:

//Print here whatever you have given as input from console

Lab Task 3: Everybody has its own unique size and shape. Body Mass Index (BMI) is a simple calculation that uses a person's height and weight to designate a classification. The formula is **BMI = kg/m^2**; kg is a person's weight in kilograms and m^2 is height in metres squared.

Write a C program to evaluate BMI of a person given the weight in Kg and height in meter.

Example:

Input:

- Weight: 50 kg
- Height: 1.5 m

Output:

- BMI: 22.22

Input:

- Weight: 95 kg
- Height: 1.60 m

Output:

- BMI: 37.11

Lab Task 4: Temperature is measured with thermometers that may be calibrated to a variety of temperature scales. There are three main scales commonly used to measure the temperature:

The Fahrenheit scale, whose symbol is (°F).

The Celsius scale, whose symbol is (°C).

The Kelvin scale, whose symbol is (K).

Write a program in C to compute the Fahrenheit and Kelvin value of temperature given the Celsius value of temperatures.

Use the following formula for the conversion:

$K = C + 273.15$

$F = (\mathbf{C} \times 9/5) + 32$

Example:

Input:

- Temperature in Celsius: 40

Output:

- Temperature in Fahrenheit: 104.00°F
- Temperature in Kelvin: 313.15K

Input:

- Temperature in Celsius: 28

Output:

- Temperature in Fahrenheit: 82.4°F
- Temperature in Kelvin: 301.15K

Submission Format:- You have to upload: (1) The source code in the following format in a zipped folder: Assgn2Src-<RollNo>.zip. Inside the zipped folder save each program with Assgn2_task#<RollNo>.c

Note: Please follow this naming convention mentioned above.

Grading Policy:- The policy for grading this assignment will be - (1) show to TA 66 marks (2) Code submission with indentation: 34 marks.

- All submissions are subject to plagiarism checks. Any case of plagiarism will be dealt with severely.