

SINDH MADRESSATUL ISLAM UNIVERISTY, KARACHI

DEPARTMENT OF SOFTWARE ENGINEERING

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CSC103 - PROGRAMMING FUNDAMENTALS

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SECTION SE1A/SE1B/SE1C/CS1D^e

LAB MANUAL 03

INTRODUCTION TO C

INTRODUCTION TO C

1. Programming

- A programming language is a formal language designed to communicate instructions to a machine, particularly a computer.
- Programming languages can be used to create programs that control the behavior of a machine and/or to express algorithms precisely

2. Compiler

- A compiler is a computer program (or set of programs) that transforms source code written in a programming language (the source language) into another computer language (the target language, often having a binary form known as object code).
- The most common reason for wanting to transform source code is to create an executable program. Compiling the File:

3. C Language:

- C is a general-purpose programming language that was originally developed by Dennis Ritchie between 1969 and 1973 at AT&T Bell Labs. C is reliable, simple and easy to use.

4. Include files (Library)

- Many languages include files, and this is usually done at the top of the program code.
- Include files contain some information that the program needs to know in order to run the code contained in the program. for example <math.h>, <stdio.h> etc.

5. <stdio.h> (standard input and output):

- The C programming language provides many standard library commands for input and output. These command make up the bulk of the C standard library header <stdio.h>

6. Structure of a C Program:

```
#include<stdio.h>  /* includes library "file stdio." */
int main()  /* main starting point of the program*/
{
    :
    :
    :  /* statments and variable here */
    :
    return 0;
}
```

Example 01:

```
#include <stdio.h>  /* Includes library file "stdio.h" */

int main()

{
    printf("Hello World"); /*displays Hello World on screen */
    return 0;
}
```

Example 02:

```
#include <stdio.h>
int main()
{
    printf("Programming is really fun. \n");
    printf("I am enjoying CS102 lab \n");
    return 0;
}
```

Task 01:

Write a program that prints your First Name on the first line and Second Name on the next line of the Console screen.

Escape Sequence	Represents
\b	Backspace
\n	New line
\r	Carriage return
\t	Horizontal tab
\'	Single Quotation mark
\"	Double quotation mark
\\	Backslash

Example 03:

[illegible]

Example 04:

```
#include<stdio.h>
int main()
{
    printf("This\nis\na\ntest\n\nPlease,\"Practice the lab05 example at home\n");
}
```

Lab Task 03:

1. Write a program to print the given menu:

```
*****
*PASSWORD PROTECTED PERSONAL DIARY*
*****

      MAIN MENU:

ADD RECORD      [1]
VIEW RECORD     [2]
EDIT RECORD     [3]
DELETE RECORD   [4]
EDIT PASSWORD   [5]
EXIT            [6]
```

2. Write a program that prints the following Menu on the screen.

```
**** Welcome to Contact Management System ****

      MAIN MENU
=====
[1] Add a new Contact
[2] List all Contacts
[3] Search for contact
[4] Edit a Contact
[5] Delete a Contact
[0] Exit
=====
Enter the choice:
```

Submission Instructions:

Due Date: Oct 24, 2022

1. For C files, name your C files as
questionNumber_yourRollNum_yourSection_LTNumber.c (e.g.
Q1_BSE-22F-123_SE1A_LT1.c).
2. Place all files in a folder and name the folder as
yourRollNum_yourSection_LTNumber (e.g. BSE-22F-123_SE1A_LT1).
3. Compress the folder by using either Winrar or 7Zip with the same name.
4. Go to tiny.cc/pffall2022smiu and in the “Coordination Document Folder” open the “PF-Activity Submission Form”.
5. Fill out all the details with your correct password and submit the form by the due date.