Daffodil International University

Chapter - 2
C Programming Basics

Course Code: CIS 115 & 115 L

Course Title: Structured Programming

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Overview

- Basic Structure of C
- First C Program
- Compilation Process in C

A Simple C Program

```
#include <stdio.h>
   int main(){
   printf("My First C Program");
   return 0;
}
```

- **#include <stdio.h>** includes the **standard input output** library functions. The **printf()** function is defined in stdio.h .
- **int main()** The **main() function is the entry point of every program** in c language.
- **printf()** The printf() function is **used to print data** on the console.
- **return 0** The return 0 statement, returns execution status to the OS. The 0 value is used for successful execution and 1 for unsuccessful execution.

C Program Structure

- Each C Program is consists of 6 main sections, these sections are named as

1. **Documentation Section**
2. **Link Section**
3. **Definition Section**
4. **Global Declaration Section**
5. **Main Function Section**
6. **Subprogram Section**

```
1   /* Program:  Area Of Circle
2      Author: Alien  */
3   #include<stdio.h>
4   #include<conio.h>
5
6   #define PI  3.14
7
8   void area(int);
9
10  main()
11  {
12     int radius;
13     printf("Enter Radius Of Circle ");
14     scanf("%d",&radius);
15     area(radius);
16  }
17
18  void area(int r)
19  {
20     float result;
21     result = PI*r*r;
22     printf("Area Of Circle is %f", result);
23  }
24
```

Documentation Section

Link Section

Definition Section

Global Declaration Section

Main() Function Section

Subprogram Section

Document Section

- The Documentation Section consists of a set of comment lines giving the name of the Programmer, date, and other details about the program. The documentation section helps anyone to get an overview of the program. Comments may appear anywhere within a program. The text between **/*** And ***/** appears as a comment in C.
- for Example: **/* This is a comment */**

Link Section

- The Link section provides instructions to the compiler to link functions from the system library such as using the **#include** directive.

Definition Section

- All the symbolic constants are written in the definition section. Macros are known as symbolic constant (macro is a process where an identifier is replaced by a predefined string or value in a program) such as using the **#define** directive.

Global Declaration Section

- Global Declaration Section contains the global declaration of user-defined functions and Variables. There are some variables that are used in more than one function. Such variables are called **Global Variables** and are declared in the global declaration section that is outside of all the functions.

Main Function Section

- It is necessary to have one main() function section in every c program. This section contains two parts, the **Declaration Part** And **Executable Part**.
- The declaration part declares all the variables that are used in the executable part.

Subprogram Section

- The subprogram section contains all the user-defined functions that are used to perform a specific task. These user-defined functions are called in the main function. User-defined functions are generally placed just after the main() function, although they may appear in any order.