LAB 11: FUNCTIONS IN C

**What is a Function?**

A function is a self-contained block of statements that perform a coherent task of some kind. Every C program can be thought of as a collection of these functions. As we noted earlier, using a function is something like hiring a person to do a specific job for you. Sometimes the interaction with this person is very simple; sometimes it’s complex

**Example:**

main( ) {

message( ) ;

printf ( "\nCry, and you stop the monotony!" ) ;

}

message( ) {

printf ( "\nSmile, and the world smiles with you..." ) ;

}

There are basically two types of functions:

**Library functions Ex.**printf( ), scanf( ) etc.

**User-defined functions Ex.**power( ), input( ) etc.

**Some Important features to remember:**

To avoid repetition of code and bulky programs functionally related statements are isolated into a function.

Function declaration specifies what is the return type of the function and the types of parameters it accepts.

Function definition defines the body of the function.

Variables declared in a function are not available to other functions in a program. So, there won’t be any clash even if we give same name to the variables declared in different functions.

Always return a value.

Returns only one value.

Exercise:

1- Write a function to calculate the factorial value of any integer entered through the keyboard.

2- Write a function power (a, b) to calculate the value of ‘a’ raised to the power of ‘b’.

3-Write a general-purpose function to convert any given year into its roman equivalent. The following table shows the roman equivalents of decimal numbers:

Decimal Roman Decimal Roman

|  |  |
| --- | --- |
| 1 i  100 c  5 v | 500 d  10 x  1000 m  50 l |

Example:

Roman equivalent of 1988 is mdcccclxxxviii

Roman equivalent of 1525 is mdxxv

4- Write a function which receives a float and an int from main( ), finds the product of these two and returns the product which is printed through main( )

5- Write a function that receives 5 integers and returns the sum, and average of these numbers. Call this function from main( ) and print the results in main( ).