BRS GLOBAL SCHOOL
Affiliated to CBSE, New Delhi, Affiliation No. 830346

Subject: Computer science

Chapter - 8

Functions in C (Answers)

Class: X

A. Fill in the blanks:

1. Function definition
2. Built-in
3. Program control
4. Parameter
5. Call by value
6. Empty
7. Argument
8. Formal parameters, Actual arguments

B. State True or False:

1. False
2. False
3. True
4. True
5. True
6. False
7. False
8. True

C. Multiple Choice Questions:

1. (a) Input

2. (b) Built-in

3. (b) User defined

4. (a) Body

5. (a) Recursion

6. (b) Return type

7. (a) Formal parameters

D. Answer in one word or sentence:

1. Only one return statement gets executed.

2. Formal parameters

3. Call by reference

4. Call by value

5. There are two ways of calling the function.

E. Answer the following:

1. A function is a block of code that can be reused anywhere in the program. It divides the program in smaller modules, thus making it easier to read and debug.

2. Functions are of two types: a) Library or built-in functions: These functions are grouped together and stored in C library. They perform the basic *I/*O and mathematical operations. b) User defined functions: These functions are designed by the user to carry out some specific tasks as per the need in the program.

3. C compiler starts executing the program from the main () function. During execution, whenever a function is called by its name, the program control finds the function and executes its statements. Then program control automatically comes back to the location from where the function was last called.

4. Return type of a function specifies the data type of the result that will be returned by the function. Return statement is used to send back the result of the executed statements to the place where the call is made.

5. Function body contains the block of statements within curly braces, which are used to carry out some actions. These statements get executed when function is called in a program.

6. A function prototype is the first line of function definition. It gives information to the compiler about the function name, the types and number of parameters it receives and its return type.

7. Call by value is a method in which the values of actual parameters are passed to the formal parameters. Any change made in the formal parameters does not reflect in the actual parameters.

8. Parameter refers to any declaration within the parenthesis while defining the function body, whereas argument refers to expressions or values supplied in the function call.

LAB ACTIVITY

1) Write a Function: *i)*Area of Square(side* side)

```
void area_of_square(int side1, int side2)
{
int area = side1* side2;
printf(" Area of Square = %d\n", area);
}
```

ii) Area of Rectangle(length* breadth)

```
void area_of_rect(int l, int b)
{

int area= 1 *b;

printf(" Area of rectangle =%d\n", area);

}
```

2) Write a program in C to accept a number and check for prime number using the function name prime.

```
#include<stdio.h>

#include<conio.h>
void prime(int a);
void main()
{
int n;

clrscr();

printf("\nEnter any number", n);

scanf("%d",&n);

prime(n);

}

void prime (int a)
{
```

```
int f= 0;
int i;
for (i = 1; i <= a; i++)
{
if (a % i == 0)
f++;
if (f == 2)
{
printf("n is a Prime number");
}
else
printf("n is not a Prime number");
getch();
}
```

3) Write a program in C to create two functions.One function should display the message, “Welcome and good luck for class 10” and the other function should display, “Perseverance leads to success”. Call the message in the main() function.

```
#include<stdio.h>
#include<conio.h>
function1();
function2();
void main()
{
clrscr();
printf("First function \n");
function1();
printf("Second function \n");
function2();
getch();
}
function1()
{
printf("Welcome and good luck for class 10 \n");
}
function2()
{
printf("Perseverance leads to success”);
}
```

4. Write a program to find the cube of a number in the find-cube().

```
#include<stdio.h>
#include<conio.h>
find_cube(int n);
void main()
```

```
{
//function prototype
clrscr();
int n;
printf("Enter number \n");
scanf("%d",&n);
find_cube(n); //function calling
getch();
}
find_cube(int n)
{
//function definition
int cube=n*n*n;
printf("Cube of the number is= %d \n",cube);
}
```

5. Create a program to find the sum of the series using function.

```
#include<stdio.h>
#include<conio.h>
void series( int a);
void main()
{
int n;
printf("\nEnter the value");
scanf("%d", &n);
series(n);
getch();
}
void series( int a)
{
int sum = 0, i;
for(i=1;i<=a; ++i)
sum+=i;
printf("Sum= %d", sum);
getch();
}
```

6. Write a menu driven program using functions to do the following tasks:

I) To find the HCF of two numbers

II) To find the LCM of two numbers

```
#include <stdio.h>
#include<conio.h>
void hcf(int a, int b);
void lcm(int a, int b);
```

```
void main()
{
int c, d;

printf("Enter the two numbers to find their HCF: ");
scanf("%d%d", &c, &d);
hcf(c,d);
lcm(c,d);
getch();
}
void hcf(int a, int b)
{
while (a != b)
if (a > b)
a = a - b;
else
b = b - a;
printf(“The HCF is %d", a);
}
void lcm(int a, int b)
{
int i = 1; for(; a != b; i++)
if((a*i)%b == 0)
break;
}
printf("\nLCM is %d", a*i);
}
```

7. Write a program to swap the values of two variables without using a third variable.

```
#include<stdio.h>
#include<conio.h>
swap(int x,int y);
void main()
int x,y;
printf("Enter first number \n");
scanf("%d",&x);
printf("Enter second number \n");
scanf("%d",&y);
swap(x,y);
getch();
}

swap(int x, int y)
```

```
{
X=X+y;
y=x-Y;
X=X-y;
printf("After swapping : x = %d, y = %d", x, y);
}
```