214189E – SENARATHNA G.G.P.C.

Function in C.

Exercises:

01)

```c
//Call by value.
#include <stdio.h>

int multi(int x,int y); // function prototype, also called function
declaration.

int main() { // // main function, program starts from here.
    int m,n;
    printf("Enter two numbers:\n");
    scanf("%d%d", &m,&n);

    printf("Multiplication of two integer numbers:%d", multi(m,n));
}

int multi(int x,int y) {  // function definition.
    int multi = x * y;
    return multi;
}

//Call by reference.

/*#include <stdio.h>

int multi(int *x,int *y);

int main() {
    int m,n;
    printf("Enter two numbers:\n");
    scanf("%d%d", &m,&n);

    printf("Multiplication of two integer numbers:%d", multi(&m,&n));
}

int multi(int *x,int *y) {
    int multi = *x * *y;
    return multi;
}*/
```

02)

```c
//Call by value.
#include <stdio.h>

int sumOfSquare(int x,int y); //function prototype, also called function
declaration.

int main() { //main function, program starts from here.
    int a,b;
    printf("Input two numbers:\n");
    scanf("%d%d", &a,&b);

    printf("sum of squares of two numbers:%d", sumOfSquare(a,b));
}

int  sumOfSquare(int x,int y) { //function definition.
    int sumOfSquare = x*x + y*y;
    return sumOfSquare;
}

//Call by reference.
/*#include <stdio.h>

int sumOfSquare(int *x,int *y);

int main() {
    int a,b;
    printf("Input two numbers:\n");
    scanf("%d%d", &a,&b);

    printf("sum of squares of two integer numbers:%d", sumOfSquare(&a,&b));
}

int sumOfSquare(int *x,int *y) {
    int sumOfSquare = (*x)*(*x) + (*y)*(*y);
    return sumOfSquare;
}*/
```

03)

```c
//Call by value.
#include <stdio.h>

double triangleArea(double x,double y); //function prototype, also call
function declaration.

int main() { //main function,program start from here.
    double a,b;
    printf("Input the base and height of a triangle:\n");
    scanf("%lf%lf", &a,&b);

    printf("Area of triangle:%lf", triangleArea(a,b)); //function call.
}

double triangleArea(double x,double y) { //function definition.
    double triangleArea = 0.5 * x * y;
    return triangleArea;
}
```

04)

```c
#include <stdio.h>

int fact(int x); //function prototype, also called function declaration.

int main() { //main function, program start from here.
    int num;
    printf("Input the number:\n");
    scanf("%d", &num);

    printf("factorial value is %d", fact(num)); // function call.
}

int fact(int x) { //function definition.
    int mul = 1;
    for(int i = 1;i <= x;i++) {
        mul = mul * i;
    }
    return mul;
}
```

05)

```c
#include <stdio.h>

int Fibo(int x);
int main() {
    int num;
    printf("Input the number:");
    scanf("%d", &num);

    Fibo(num);
}
int Fibo(int x) {
    int Fibo;
    if(x == 0) {
        printf("0");
        return Fibo;
    }else if(x == 1) {
        printf("0 1");
        return Fibo;
    }else {
        printf("0 1");
        int a = 0,b = 1;
        for(int i = 1;i < x;i++) {
            Fibo = a + b;
            printf("% d",  Fibo);
            a = b;
            b = Fibo;
        }
        return Fibo;
    }
}
```

06)

```c
#include <stdio.h>

float CelciTOFahren(int x);

int main() {
    float temp_C;
    printf("Enter the temperature in Celsius value:\n");
    scanf("%f", &temp_C);

    printf("The temperature in Fahrenheit value:%.2f",
CelciTOFahren(temp_C));
}

float CelciTOFahren(int x) {
    float CelciTOFahren = x * 9/5 + 32;
    return CelciTOFahren;
}
```