

Practical-01

Aim:- Structure of C Program.

Code:-

```
#include<stdio.h>
// Header file > stdio stand for Standard Input , Output.

/*If we use Turbo C and CodeBlocks we must include
conio.h header file...> conio stands for Console I/O.
*/

int main() // This is the main Function...
//Compiler starts executing instruction from main function
{

    return 0; // return type > here is return 0 Because out main
              // function's type is int.

}
```

Practical-02

Aim:- Implement Basic C Programs using scanf() and printf()

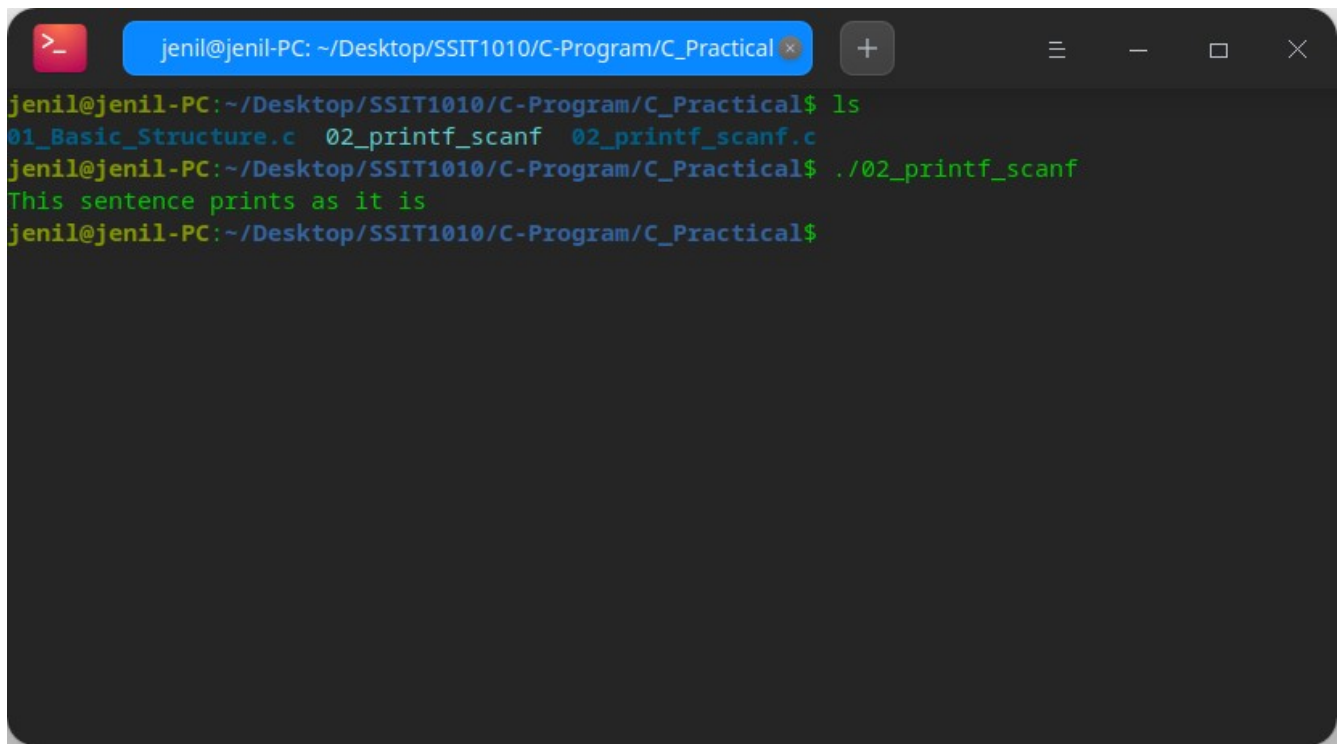
Code:-(Printf)

```
#include<stdio.h>

int main(){

    printf("This sentence prints as it is");
    // \n .... New line
    return 0;
}
```

Output:-

A screenshot of a terminal window with a dark background. The window title bar shows the path ~/Desktop/SSIT1010/C-Program/C_Practical. The terminal content shows the user running 'ls' to list files, then running './02_printf_scanf' to execute the program. The output of the program is 'This sentence prints as it is'.

```
jenil@jenil-PC: ~/Desktop/SSIT1010/C-Program/C_Practical$ ls
01_Basic_Structure.c 02_printf_scanf 02_printf_scanf.c
jenil@jenil-PC:~/Desktop/SSIT1010/C-Program/C_Practical$ ./02_printf_scanf
This sentence prints as it is
jenil@jenil-PC:~/Desktop/SSIT1010/C-Program/C_Practical$
```

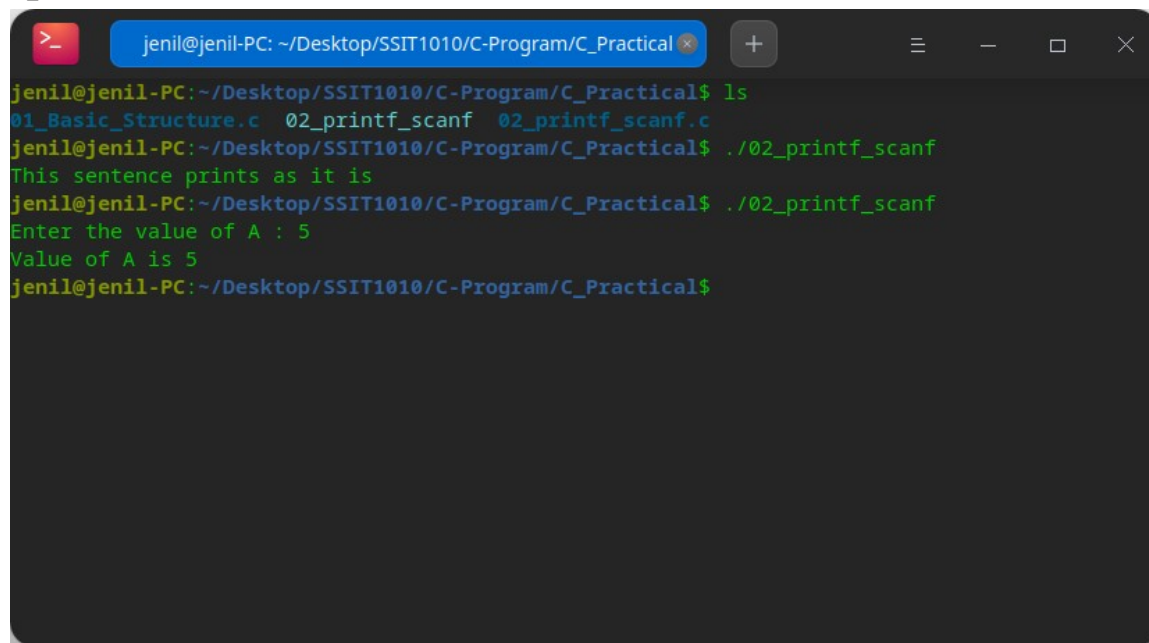
Code:-(Scanf)

```
#include<stdio.h>
int main(){
    int A;//Variable Initialization

    printf("Enter the value of A : ");
    scanf("%d",&A);
    printf("Value of A is %d\n",A);
    /*
        %d for Integers
        %f for Real Number(Float)
        %c for Character
    */

    return 0;
}
```

Output:-



```
jenil@jenil-PC: ~/Desktop/SSIT1010/C-Program/C_Practical$ ls
01_Basic_Structure.c  02_printf_scanf  02_printf_scanf.c
jenil@jenil-PC: ~/Desktop/SSIT1010/C-Program/C_Practical$ ./02_printf_scanf
This sentence prints as it is
jenil@jenil-PC: ~/Desktop/SSIT1010/C-Program/C_Practical$ ./02_printf_scanf
Enter the value of A : 5
Value of A is 5
jenil@jenil-PC: ~/Desktop/SSIT1010/C-Program/C_Practical$
```

Practical-03

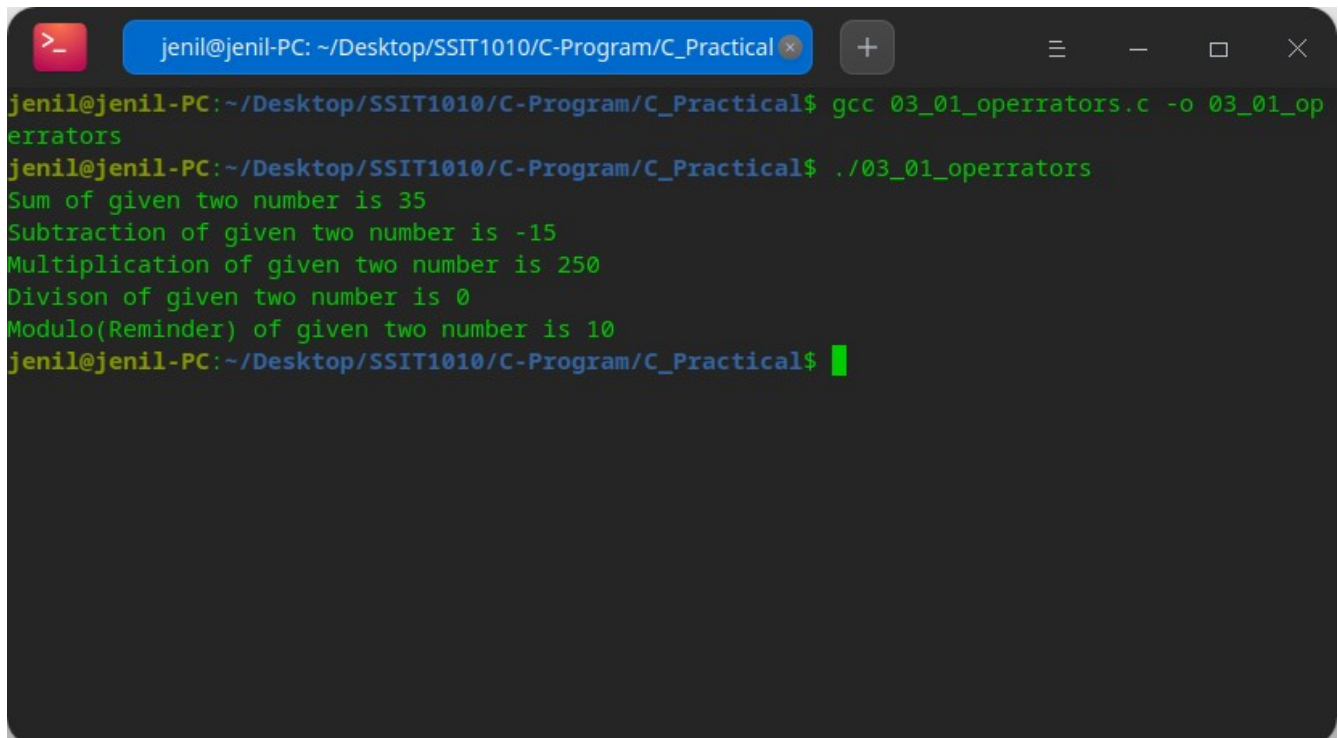
Aim:- Implement Basic C Programs to demonstrate different types of operators.

Code:- (Arithmetic operator)

```
#include<stdio.h>
// Arithmetic operators
int main(){
    /*
        +(Sum),-(Sub),*(Multiplication),/(Division)
        %(Modulo)....reminders.
    */
    //variable init.. and Declaration.
    int Sum, Sub, Mul, Div, Mod;
    int A= 10;
    int B = 25;
    //Operations
    Sum = A+B;
    Sub = A-B;
    Mul = A*B;
    Div = A/B;
    Mod = A%B;
    //Print Statements
    printf("Sum of given two number is %d \n",Sum);
    printf("Subtraction of given two number is %d \n",Sub);
    printf("Multiplication of given two number is %d \n",Mul);
    printf("Divison of given two number is %d \n",Div);
    printf("Modulo(Reminder) of given two number is %d \n",Mod);
    return 0;
}
```

Output:-

Here we use gcc command to compile the .c extension file. After this command compiler creates [File_name].exe (executable) file automatically....



```
jenil@jenil-PC: ~/Desktop/SSIT1010/C-Program/C_Practical$ gcc 03_01_operrators.c -o 03_01_operrators
jenil@jenil-PC:~/Desktop/SSIT1010/C-Program/C_Practical$ ./03_01_operrators
Sum of given two number is 35
Subtraction of given two number is -15
Multiplication of given two number is 250
Divison of given two number is 0
Modulo(Reminder) of given two number is 10
jenil@jenil-PC:~/Desktop/SSIT1010/C-Program/C_Practical$
```

Code:-(Increment Decrement)

```
#include<stdio.h>

int main(){

    int a, b;//Var initialization

    //take input from user
    printf("Enter your first Number: ");
    scanf("%d",&a);
    printf("Enter your second number: ");
    scanf("%d",&b);

    // Increment/Decrement operators
    int post_increment, post_decrement;
    int pre_increment, pre_decrement;

    pre_increment = ++a; // (first calculate a+1 and then print it)
    post_increment = b++; // (first Print and then Calculate a+1)
    pre_decrement = --b; // (first calculate a-1 and then print it)
    post_decrement = a--; // (first Print and then Calculate a-1)

    printf("i am pre increment %d\n",pre_increment);
    printf("i am post increment %d\n",post_increment);
    printf("i am pre decrement %d\n",pre_decrement);
    printf("i am post decrement %d\n",post_decrement);

    return 0;
}
```

Output:-

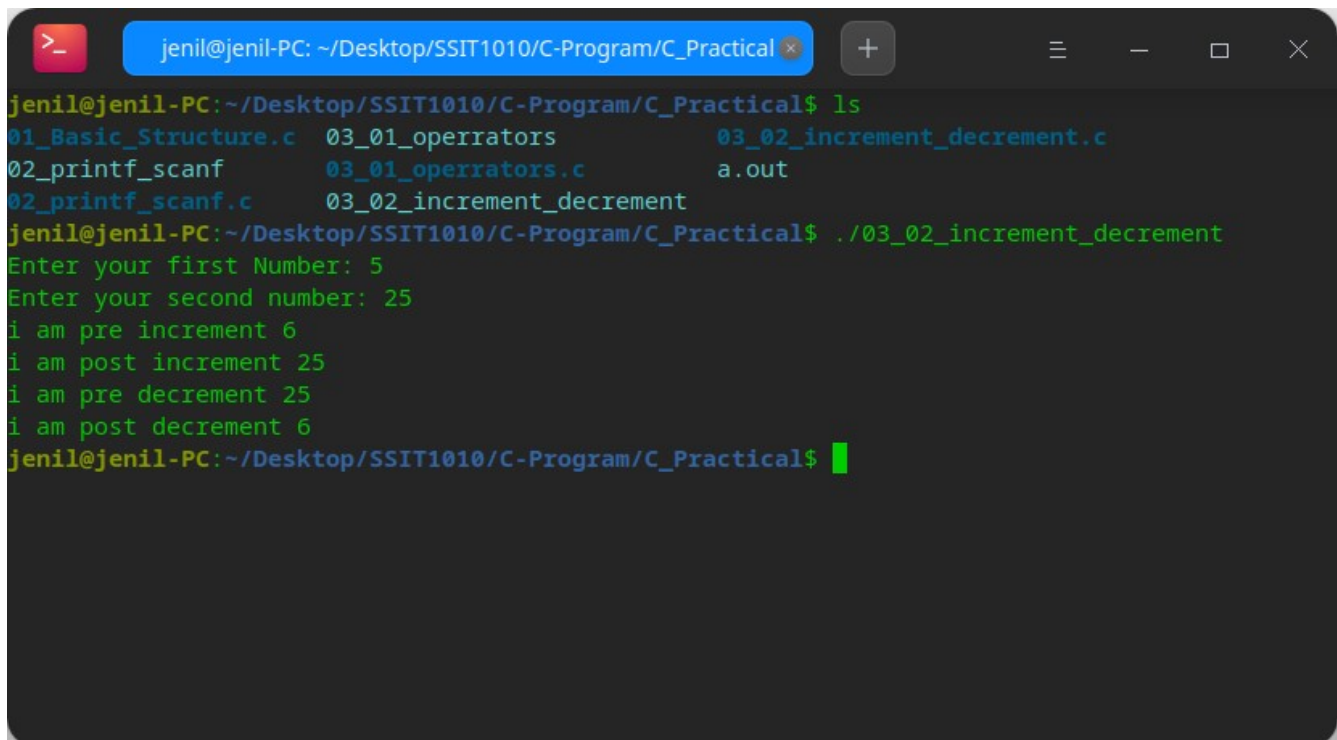
Explain:- Let First Number take X and second Number is Y. So X = 5 and Y = 25.....

X's **pre_increment** is 6 (5+1) so now X's value is 6..

Post increment means first print and then increase value by adding 1..
so in this case first print Y's value and then Y's value will update..(26)

Y's **pre_decrement** is 25 (26-1) so now Y's value is 25..

Post decrement means first print and then decrease value by deduct 1..
so in this case first print X's value(6) and then X's value will update..(5)



```
jenil@jenil-PC: ~/Desktop/SSIT1010/C-Program/C_Practical$ ls
01_Basic_Structure.c  03_01_operrators      03_02_increment_decrement.c
02_printf_scanf       03_01_operrators.c    a.out
02_printf_scanf.c     03_02_increment_decrement

jenil@jenil-PC: ~/Desktop/SSIT1010/C-Program/C_Practical$ ./03_02_increment_decrement
Enter your first Number: 5
Enter your second number: 25
i am pre increment 6
i am post increment 25
i am pre decrement 25
i am post decrement 6
jenil@jenil-PC: ~/Desktop/SSIT1010/C-Program/C_Practical$
```

Practical-04

Aim:- Swap two Numbers using third variable

Code:-

```
#include<stdio.h>
```

```
int main()
```

```
{
```

```
    int x, y;
```

```
    x = 10;
```

```
    y = 20;
```

```
    int temp = x;
```

```
    x = y;
```

```
    y = temp;
```

```
    printf("After Swapping: x = %d, y = %d\n", x, y);
```

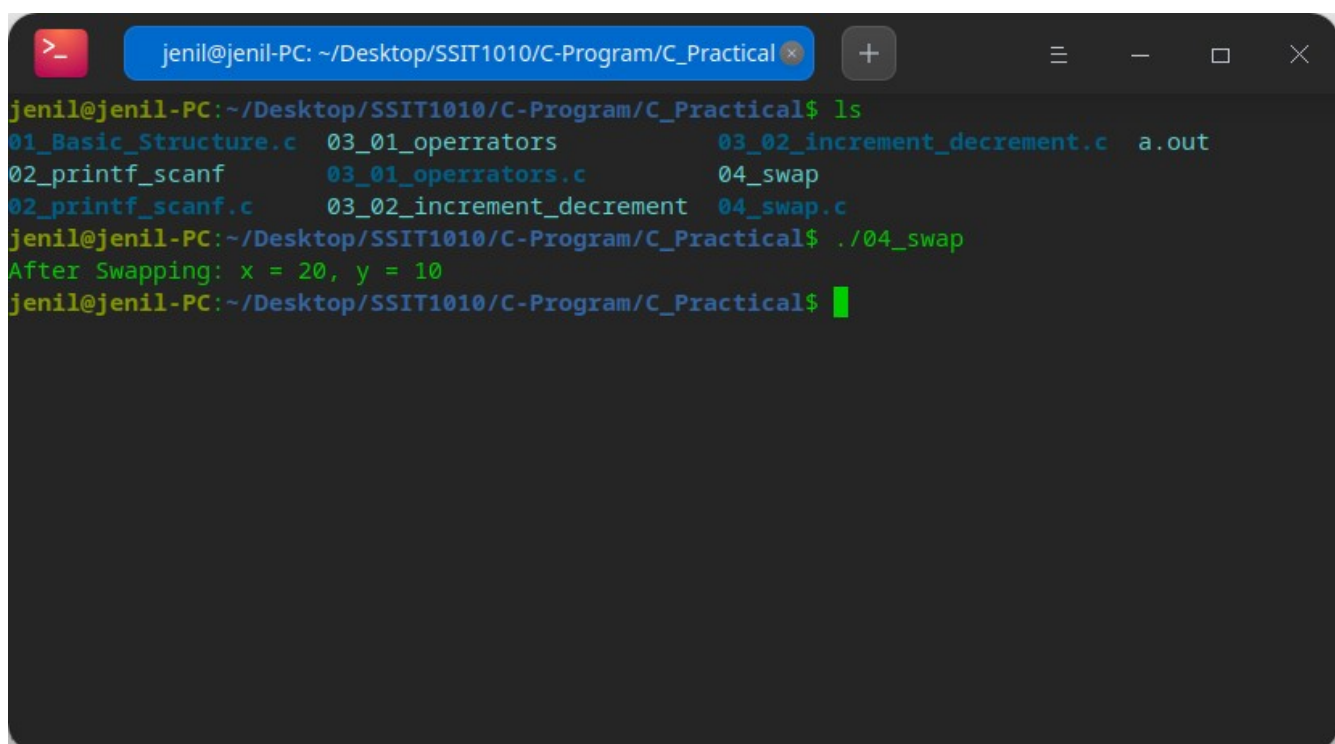
```
    return 0;
```

```
}
```


Output:-

Explain:-

- first of all store x's value in third variable(temp).
- So the value of temp is 10.
- now store y's value in variable x.
- So the value of x is become 20 and y is also 20
- now store temp's value in y.
- So that value of y become 10(same as x).



```
jenil@jenil-PC: ~/Desktop/SSIT1010/C-Program/C_Practical$ ls
01_Basic_Structure.c  03_01_operrators      03_02_increment_decrement.c  a.out
02_printf_scanf       03_01_operrators.c    04_swap
02_printf_scanf.c     03_02_increment_decrement  04_swap.c
jenil@jenil-PC:~/Desktop/SSIT1010/C-Program/C_Practical$ ./04_swap
After Swapping: x = 20, y = 10
jenil@jenil-PC:~/Desktop/SSIT1010/C-Program/C_Practical$
```

Practical-05

Aim:- Implementation in C for conditional statement: if()...else{}

Code:-

```
#include<stdio.h>

int main(){

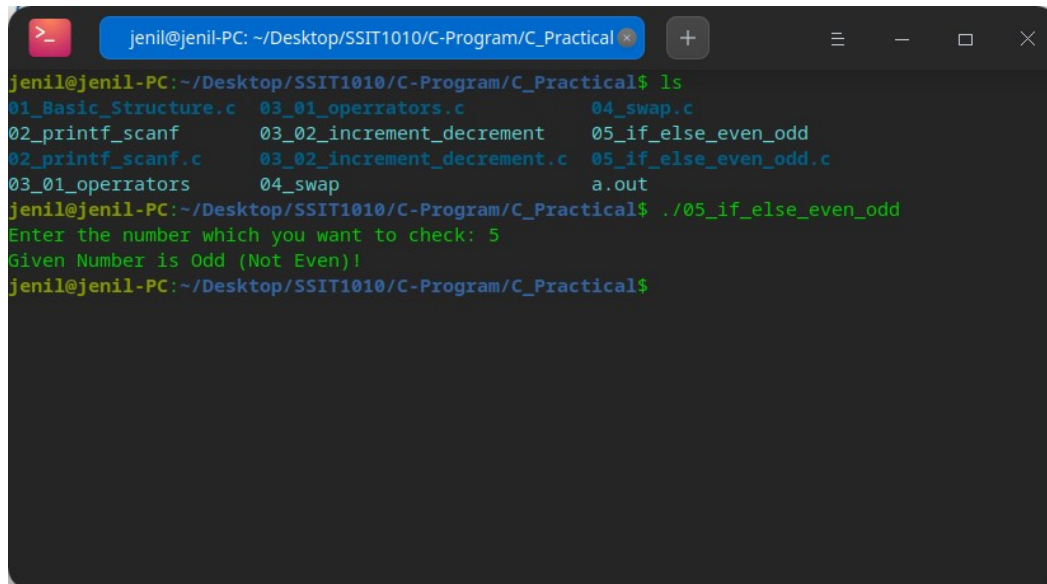
    int Number;

    printf("Enter the number which you want to check: ");
    scanf("%d",&Number);

    if (Number%2 == 0)
    {
        printf("Given number is Even !\n");
    }
    else
    {
        printf("Given Number is Odd (Not Even)! \n");
    }

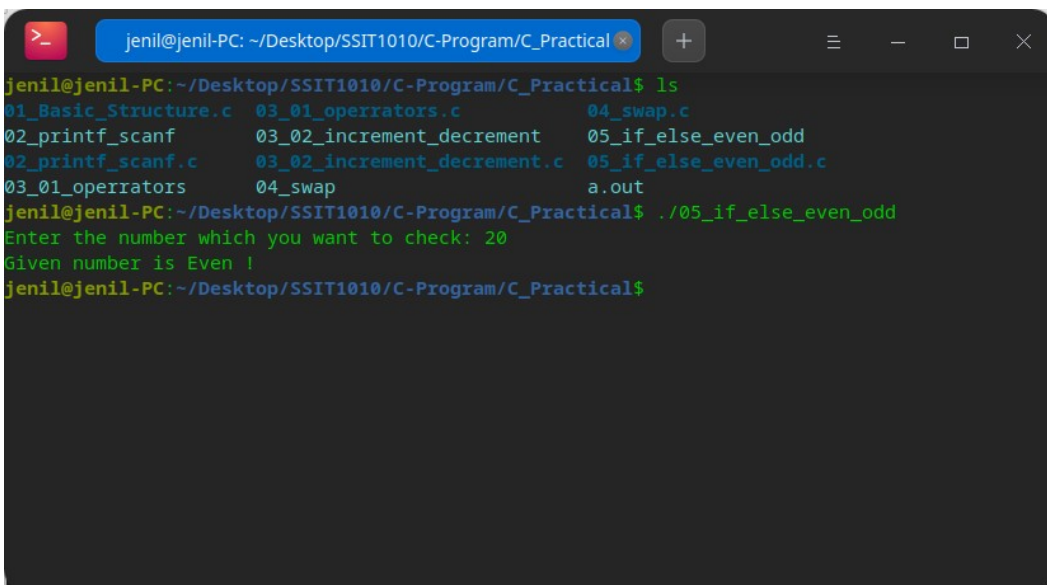
    return 0;
}
```

Code:-



```
jenil@jenil-PC: ~/Desktop/SSIT1010/C-Program/C_Practical$ ls
01_Basic_Structure.c  03_01_operrators.c      04_swap.c
02_printf_scanf       03_02_increment_decrement 05_if_else_even_odd
02_printf_scanf.c     03_02_increment_decrement.c 05_if_else_even_odd.c
03_01_operrators      04_swap                  a.out
jenil@jenil-PC:~/Desktop/SSIT1010/C-Program/C_Practical$ ./05_if_else_even_odd
Enter the number which you want to check: 5
Given Number is Odd (Not Even)!
```

Output i: for odd number



```
jenil@jenil-PC: ~/Desktop/SSIT1010/C-Program/C_Practical$ ls
01_Basic_Structure.c  03_01_operrators.c      04_swap.c
02_printf_scanf       03_02_increment_decrement 05_if_else_even_odd
02_printf_scanf.c     03_02_increment_decrement.c 05_if_else_even_odd.c
03_01_operrators      04_swap                  a.out
jenil@jenil-PC:~/Desktop/SSIT1010/C-Program/C_Practical$ ./05_if_else_even_odd
Enter the number which you want to check: 20
Given number is Even !
```

Output ii: for even number

Practical-06

Aim:- Write a C program to calculate simple Interest

Code:-

```
#include<stdio.h>

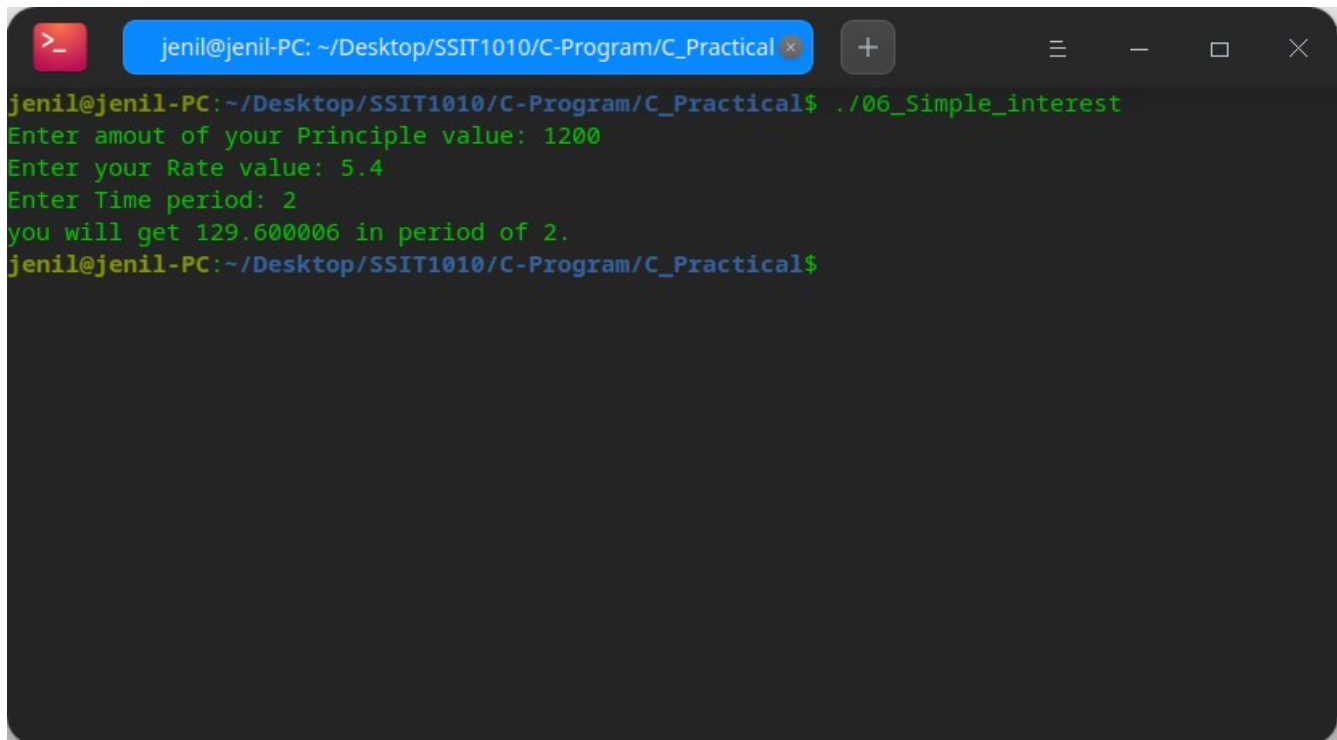
float main(){

    float P,R,T;
    printf("Enter amout of your Principle value: ");
    scanf("%f",&P);
    printf("Enter your Rate value: ");
    scanf("%f",&R);
    printf("Enter Time period: ");
    scanf("%f",&T);

    float formula = (P*R*T)/100;
    printf("you will get %f in period of %d.\n",formula,(int)T);

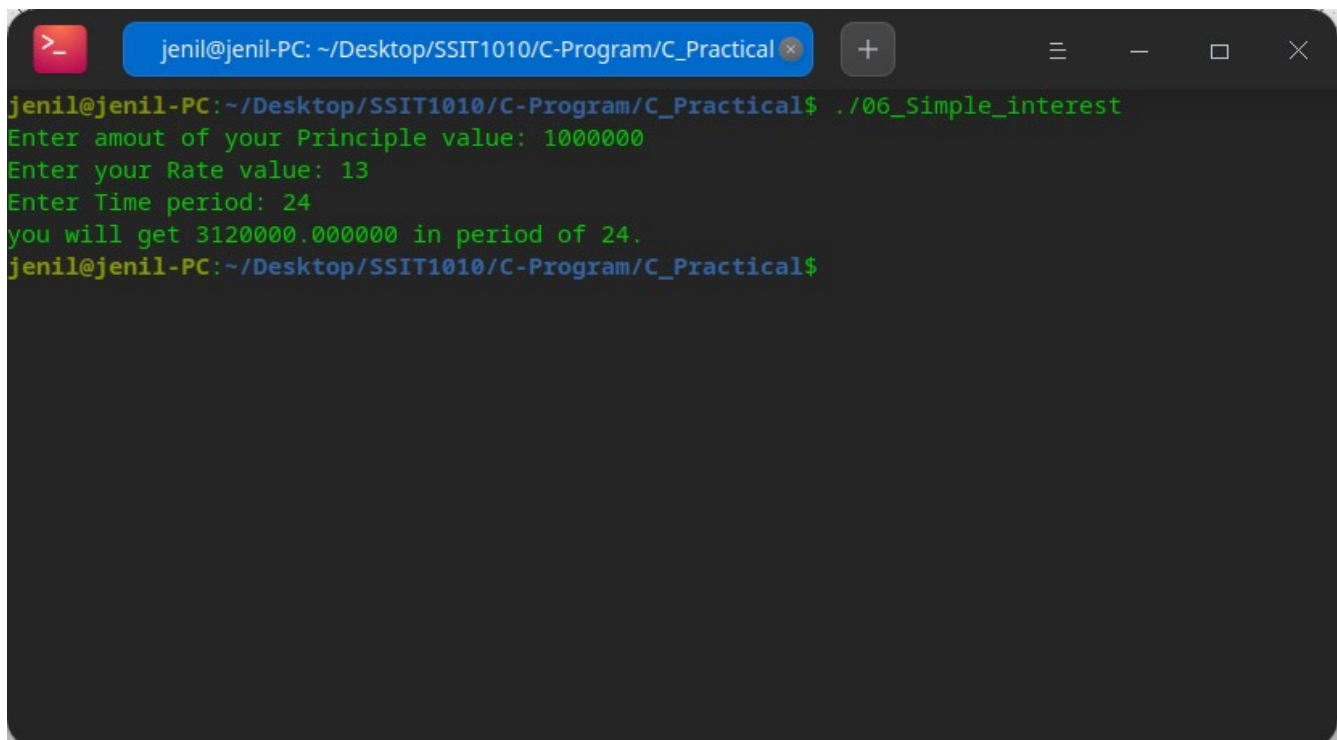
    return 0;
}
```

Output:-



```
jenil@jenil-PC: ~/Desktop/SSIT1010/C-Program/C_Practical$ ./06_Simple_interest
Enter amout of your Principle value: 1200
Enter your Rate value: 5.4
Enter Time period: 2
you will get 129.600006 in period of 2.
jenil@jenil-PC:~/Desktop/SSIT1010/C-Program/C_Practical$
```

Figure 1: Principle value of 1200 and Rate is 4.5



```
jenil@jenil-PC:~/Desktop/SSIT1010/C-Program/C_Practical$ ./06_Simple_interest
Enter amout of your Principle value: 1000000
Enter your Rate value: 13
Enter Time period: 24
you will get 3120000.000000 in period of 24.
jenil@jenil-PC:~/Desktop/SSIT1010/C-Program/C_Practical$
```

Figure 2: Details as per Mutual Funds (13% Return)

Practical 07

Aim:- Write a C program to convert celsius to Fahrenheit and Fahrenheit to Celsius.

Code:-

```
#include<stdio.h>

int main(){
    float degree,degree2;

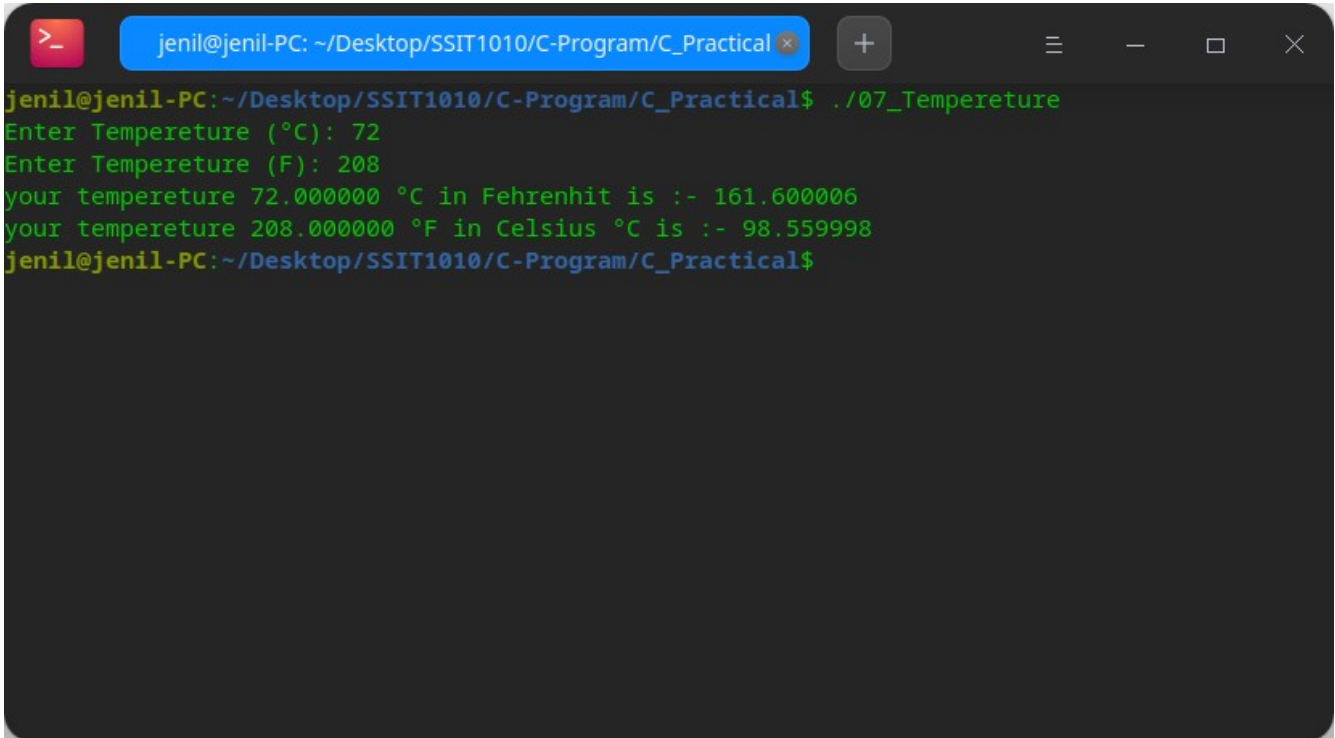
    printf("Enter Temperature (°C): ");
    scanf("%f",&degree);
    printf("Enter Temperature (F): ");
    scanf("%f",&degree2);

    float answer = (degree*1.8)+32.00;
    float answer2 = (degree2-32.00)*0.56;

    printf("your temperature %f °C in Fehrenhit is :- %f\n",degree,answer);
    printf("your temperature %f °F in Celsius °C is :- %f\n",degree2,answer2);

    return 0;
}
```

Output:-

A screenshot of a terminal window with a dark background. The window title bar shows the path ~/Desktop/SSIT1010/C-Program/C_Practical. The terminal text shows a program execution where two temperatures are entered: 72 °C and 208 °F. The program then outputs the equivalent temperatures in the other scale: 161.600006 °F for 72 °C and 98.559998 °C for 208 °F.

```
jenil@jenil-PC: ~/Desktop/SSIT1010/C-Program/C_Practical$ ./07_Tempereture
Enter Tempereture (°C): 72
Enter Tempereture (F): 208
your tempereture 72.000000 °C in Fehrenhit is :- 161.600006
your tempereture 208.000000 °F in Celsius °C is :- 98.559998
jenil@jenil-PC:~/Desktop/SSIT1010/C-Program/C_Practical$
```

Practical 08

Aim:- Write a C program to calculate Avg of Total marks and Percentage

Code:-

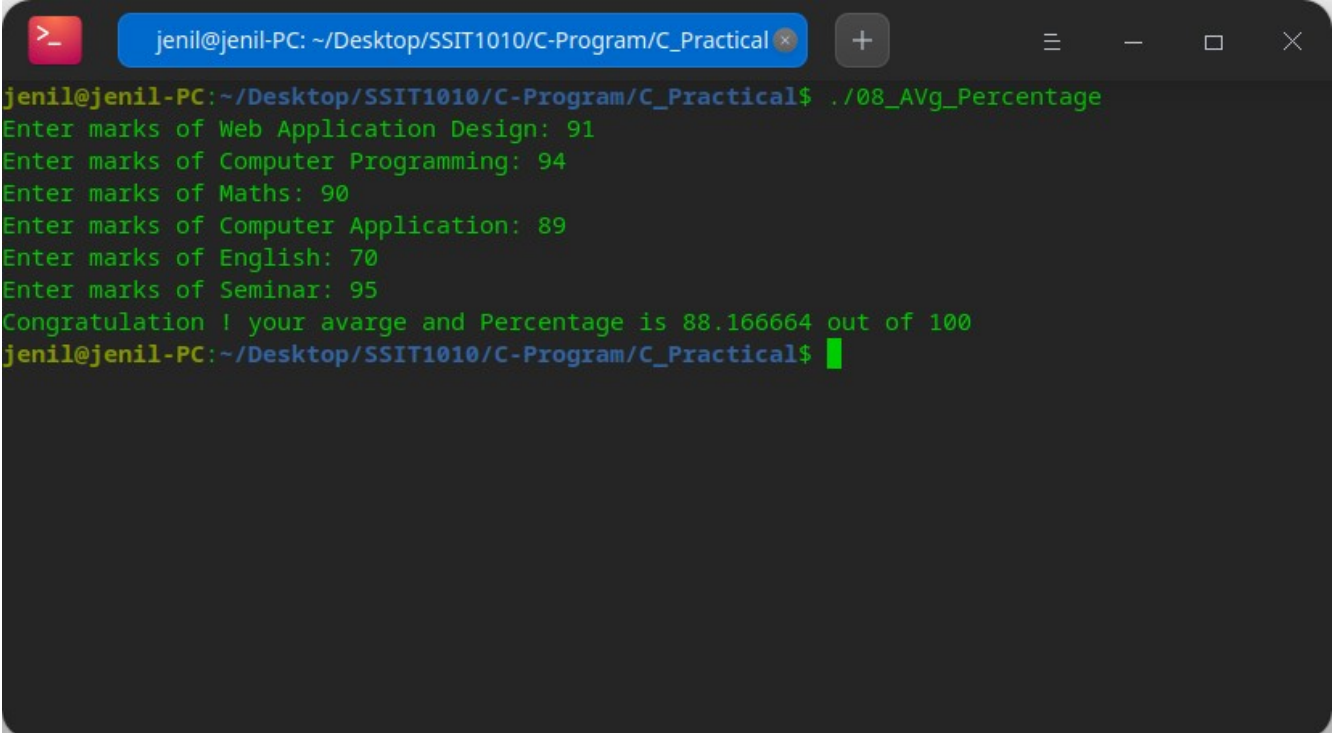
```
#include<stdio.h>
int main(){
    int WAD,ICP,Maths,ICA,English,Seminar;

    printf("Enter marks of Web Application Design: ");
    scanf("%d",&WAD);
    printf("Enter marks of Computer Programming: ");
    scanf("%d",&ICP);
    printf("Enter marks of Maths: ");
    scanf("%d",&Maths);
    printf("Enter marks of Computer Application: ");
    scanf("%d",&ICA);
    printf("Enter marks of English: ");
    scanf("%d",&English);
    printf("Enter marks of Seminar: ");
    scanf("%d",&Seminar);

    float Avg = (WAD+ICP+Maths+ICA+English+Seminar)/6.00;
    printf("Congratulation ! your avarge and Percentage is %f out of
    100\n",Avg);

    return 0;
}
```


Output:-



```
jenil@jenil-PC: ~/Desktop/SSIT1010/C-Program/C_Practical$ ./08_Avg_Percentage
Enter marks of Web Application Design: 91
Enter marks of Computer Programming: 94
Enter marks of Maths: 90
Enter marks of Computer Application: 89
Enter marks of English: 70
Enter marks of Seminar: 95
Congratulation ! your avarge and Percentage is 88.166664 out of 100
jenil@jenil-PC:~/Desktop/SSIT1010/C-Program/C_Practical$
```

The image shows a terminal window with a dark background. The title bar at the top indicates the user is 'jenil' on a 'jenil-PC' at the directory '~/Desktop/SSIT1010/C-Program/C_Practical'. The terminal shows the execution of a program named '08_Avg_Percentage'. It prompts the user to enter marks for six subjects: Web Application Design (91), Computer Programming (94), Maths (90), Computer Application (89), English (70), and Seminar (95). After processing these inputs, the program outputs a congratulatory message stating that the average percentage is 88.166664 out of 100. The terminal ends with the user's prompt and a green cursor.

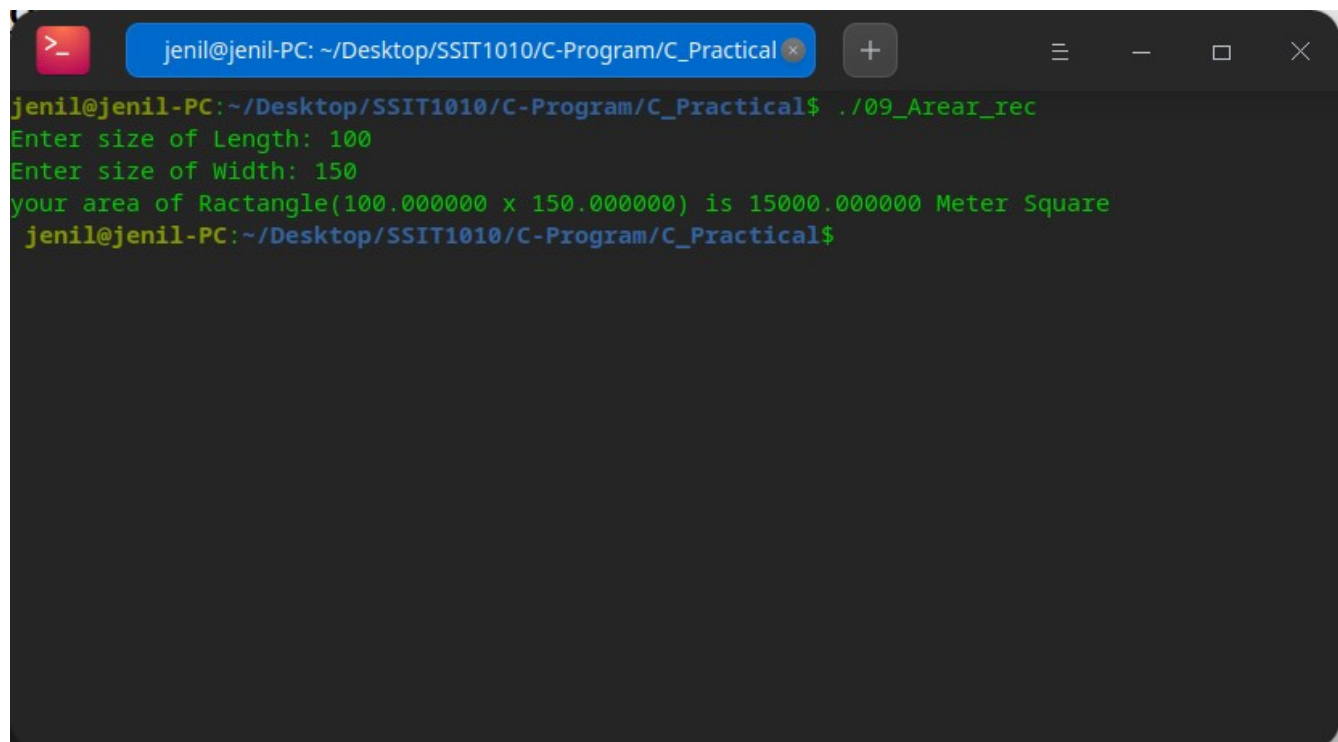
Practical 09

Aim:- Write C program to calculate area of rectangle.

Code:-

```
#include<stdio.h>
int main(){
    float length,width;
    printf("Enter size of Length: ");
    scanf("%f",&length);
    printf("Enter size of Width: ");
    scanf("%f",&width);
    printf("your area of Ractangle(%f x %f) is %f Meter Square\n",length,width,(float)(length*width));
    return 0;
}
```

Output:-

A screenshot of a terminal window with a dark background. The window title bar shows the path ~/Desktop/SSIT1010/C-Program/C_Practical. The terminal text shows the user running ./09_Arear_rec, entering 100 for length and 150 for width, and receiving the output: your area of Ractangle(100.000000 x 150.000000) is 15000.000000 Meter Square.

```
jenil@jenil-PC: ~/Desktop/SSIT1010/C-Program/C_Practical$ ./09_Arear_rec
Enter size of Length: 100
Enter size of Width: 150
your area of Ractangle(100.000000 x 150.000000) is 15000.000000 Meter Square
jenil@jenil-PC: ~/Desktop/SSIT1010/C-Program/C_Practical$
```

