CS-111

<Module No- 2>

➤ **Lab2**

NITK SURATHKAL

INBASEKARAN.P

201EC226

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```c
// Lab 2 Questin 1
// Inbasekaran.P 201EC226
/*To find Simple and Compound Interest*/
// For printf() and scnaf()
#include<stdio.h>
// Including stdlib for system("clear") to clear the screen in the terminal.
#include<stdlib.h>
// for pow() and sqrt()
#include<math.h>

int main()
{
    // To clear the console.
    system("clear");
    double p;
    // Input principal,time and rate of interest.
    printf("Please enter Principal:\n");
    scanf("%lf",&p);
    double t;
    printf("Please enter Time in year:\n");
    scanf("%lf",&t);
    double r;
    printf("Please enter Rate of Interest in percent:\n");
    scanf("%lf",&r);
    // simple intrest calculation.
    double si=(p*t*r)/100;
    // Print the simple intrest
    printf("Simple interest = %lf\n",si);
    // Compound intrest calculation.
    double amount=p*pow((1 +r/100),t);
    double ci=amount-p;
    // Print compound intrest
    printf("Compound interest = %lf\n",ci);
    return 0;
}
```

OUTPUT

```
Please enter Principal:
5000
Please enter Time in year:
2
Please enter Rate of Interest in percent:
18
Simple interest = 1800.000000
Compound interest = 1962.000000
PS D:\Documents\NIT-K\My_Second_Sem\CS111\Lab2>
```

```c
// Lab 2 Questin 2
// Inbasekaran.P 201EC226
/*To read the radius of a circle and find its Area and Perimeter.*/
// Including standard input and output for printing the variables.
#include <stdio.h>
// Including stdlib for system("clear") to clear the screen in the terminal.
#include<stdlib.h>
int main()
{
    // To clear the console.
    system("clear");
    // Making Pi as a constant
    const float PI = 3.1415;
    float r;
    // Input
    printf("Enter the radius: \n");
    scanf("%f",&r);
    // Area of circle
    float area = PI*r*r;
    // Perimeter of circle
    float perimeter = 2*PI*r;
    // Print area.
    printf("%f\n", area);
    // Print perimeter.
    printf("%f\n", perimeter);
    return 0;
}
```

OUTPUT

```
Enter the radius:
10
314.150024
62.830002
PS D:\Documents\NIT-K\My_Second_Sem\CS111\Lab2>
```

```c
// Lab 2 Questin 3
// Inbasekaran.P 201EC226
/*
3. To read the temperature in Fahrenheit and convert it to degree
centigrade.
*/
// Including standard input and output for printing the variables.
#include <stdio.h>
// Including stdlib for system("clear") to clear the screen in the
terminal.
#include<stdlib.h>

int main()
{
    // To clear the console.
    system("clear");
    // Declaring variables
    float Fahrenheit, Celsius;
    // Input
    printf("Enter the temperature is Fahrenheit: \n");
    scanf("%f",&Fahrenheit);
    // Calculating celsius from Fahrenheit
    Celsius = ((Fahrenheit-32)*5)/9;
    // Print the temperature in celsius
    printf("Temperature in Celsius is : %f",Celsius);

    return 0;
}
```

OUTPUT

```
Enter the temperature is Fahrenheit:
113
Temperature in Celsius is : 45.000000
PS D:\Documents\NIT-K\My_Second_Sem\CS111\Lab2> 
```

```c
// Lab 2 Questin 4
// Inbasekaran.P 201EC226

/*
4. Program to accept student roll no, marks in 3 subjects and calculate
total, average of marks and print them with appropriate messages.
*/

// Including standard input and output for printing the variables.
#include <stdio.h>
// Including stdlib for system("clear") to clear the screen in the terminal.
#include<stdlib.h>

int main()
{
    // To clear the console.
    system("clear");
    // Declaring variables
    int rollno;
    float marks[3];
    // Input Roll Number
    printf("Enter the Roll Number:\n");
    scanf("%d",&rollno);
    float sum = 0;
    // Input Marks
    for (int i = 0; i < 3 ; i++)
    {
        printf("Enter the marks for subject %d \n",i+1);
        scanf("%f",&marks[i]);
        sum += marks[i];
    }
    // Print sum
    printf("The sum is %f\n",sum);
    // Print average
    printf("The avg is %f\n",sum/3);

    return 0;
}
```

OUTPUT

```
Enter the Roll Number: 201226
Enter the marks for subject 1
98
Enter the marks for subject 2
99
Enter the marks for subject 3
100
The sum is 297.000000
The avg is 99.000000
PS D:\Documents\NIT-K\My_Second_Sem\CS111\Lab2> ▌
```

```c
// Lab 2 Questin 5
// Inbasekaran.P 201EC226
/*5. An Employee's Basic Pay (BP) is to be read through keyb
oard. DA is 40% of
BP, HRA is 20% of BP, calculate the Gross Pay (GP) GP is com
puted as BP+DA+HRA.*/
// For printf() and scnaf()
#include<stdio.h>
// Including stdlib for system("clear") to clear the screen
in the terminal.
#include<stdlib.h>

int main()
{
    // To clear the console.
    system("clear");
    // Declaring Variables
    double BP;
    double DA,HRA,GP;
    //Input
    printf("Enter Employee's Basic Pay:\n");
    scanf("%lf",&BP);
    // Calculating Gross product
    DA = 0.4 * BP;
    HRA = 0.2 * BP;
    GP = BP + DA + HRA;
    //Print Gross Product.
    printf("Gross Product %lf",GP);
    return  0;
}
```

OUTPUT

```
Enter Employee's Basic Pay:
10000
Gross Product 16000.000000
PS D:\Documents\NIT-K\My_Second_Sem\CS111\Lab2> ▊
```

```c
// Lab 2 Questin 6
// Inbasekaran.P 201EC226
/*6. Program to find distance between two points (x1, y1)
and (x2, y2) in a Cartesian plane.*/
// For printf() and scnaf()
#include<stdio.h>
// Including stdlib for system("clear") to clear the screen in the terminal.
#include<stdlib.h>
// for pow() and sqrt()
#include<math.h>

int main()
{
    // To clear the console.
    system("clear");
    // Declaring variables
    double x1,x2,y1,y2;
    double dis;
    //Input
    printf("Enter the cordinates x1 and y1:\n");
    scanf("%lf %lf",&x1,&y1);
    printf("Enter the cordinates x2 and y2:\n");
    scanf("%lf %lf",&x2,&y2);
    //Distance formulae
    dis = sqrt(pow((x1-x2),2) + pow((y1-y2),2));
    //Output
    printf("Distance between two points (x1, y1) and (x2, y2) is: %lf \n",dis);

    return 0;

}
```

OUTPUT

```
Enter the cordinates x1 and y1:
4 5
Enter the cordinates x2 and y2:
5 4
Distance between two points (x1, y1) and (x2, y2) is: 1.414214
PS D:\Documents\NIT-K\My_Second_Sem\CS111\Lab2>
```

```c
// Lab 2 Questin 7
// Inbasekaran.P 201EC226
/*7. Program to swap two numbers using temporary variable.
Also print the original and exchanged values.*/
// For printf() and scnaf()
#include<stdio.h>
// Including stdlib for system("clear") to clear the screen in the terminal.
#include<stdlib.h>

int main()
{
    // To clear the console.
    system("clear");
    // Declaring variables
    int a,b,temp;
    //Input
    printf("Enter the value of a and b:\n");
    scanf("%d %d",&a,&b);
    // Print the values of a and b before swapping
    printf("Values of a and b before swapping:%d %d \n",a,b);

    //Swap using temp
    temp = a;
    a = b;
    b = temp;

    // Print the values of a and b after swapping
    printf("Values of a and b after swapping:%d %d \n",a,b);
    return 0;
}
```

OUTPUT

```
Enter the value of a and b:
10 20
Values of a and b before swapping:10 20
Values of a and b after swapping:20 10
PS D:\Documents\NIT-K\My_Second_Sem\CS111\Lab2>
```