CS-111

<Module No- 2>

- Lab2

NITK SURATHKAL

INBASEKARAN.P

201EC226

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```c
// Lab 2 Questin 1
// Inbasekaran.P 201EC226
/*1. The distance between two cities (in km.) is input through the keyboard.
Write a program to convert and print this distance in meters, feet,
inches and centimeters. */
// 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 dist;
    // Input
    printf("Enter distance between two cities(km):");
    scanf("%lf",&dist);
    // 1 km = 1000 m
    printf("Distance in meters: %lf m.\n",1000*dist);
    // 1 km = 1000*100 cm
    printf("Distance in centimeters: %lf cm.\n",1000*100*dist);
    // 1 km = 3280.84 feet
    printf("Distance in feet: %lf feet.\n",3280.84*dist);
    // 1 km = 39370.1 inches
    printf("Distance in inches: %lf inches.\n",39370.1*dist);

    return 0;
}
```

OUTPUT

```
Enter distance between two cities(km):121
Distance in meters: 121000.000000 m.
Distance in centimeters: 12100000.000000 cm.
Distance in feet: 396981.640000 feet.
Distance in inches: 4763782.100000 inches.
PS D:\Documents\NIT-K\My_Second_Sem\CS111\Lab2_extra>
```

```c
// Lab 2 Questin 2
// Inbasekaran.P 201EC226
/* The length & breadth of a rectangle and radius of a circle are input throug
the keyboard.Write a program to calculate the area & perimeter of the rectangl
and the area & circumference of the circle.*/
// 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");
    //  Rectangle
    //  Input
    const float PI = 3.1415;
    float l,b;
    printf("Rectangle\n");
    printf("Enter length: ");
    scanf("%f",&l);
    printf("Enter breadth: ");
    scanf("%f",&b);
    // area of rectangle = l*b
    printf("Area of rectangle: %f\n",l*b);
    // perimeter = 2*(l+b)
    printf("Perimeter of rectangle: %f\n\n",2*(l+b));
    //  Circle
    //  Input
    float r;
    printf("Circle\n");
    printf("Enter radius: ");
    scanf("%f",&r);
    // Area = PI*r*r
    printf("Area of circle: %f\n",PI*r*r);
    // Circumference of circle = 2*PI*r
    printf("Circumference of circle: %f\n",2*PI*r);
    return 0;
}
```

OUTPUT

```
Rectangle
Enter length: 5
Enter breadth: 2
Area of rectangle: 10.000000
Perimeter of rectangle: 14.000000

Circle
Enter radius: 10
Area of circle: 314.150024
Circumference of circle: 62.830002
PS D:\Documents\NIT-K\My_Second_Sem\CS111\Lab2_extra>
```

```c
// Lab 2 Questin 3
// Inbasekaran.P 201EC226

/* If a five-digit number is input through the keyboard,
write a program to calculate the sum of its digits.*/

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

int main()
{
   // To clear the console.
   system("clear");
   // input number
   int num;
   printf("Enter ther five digit number: ");
   scanf("%d",&num);
   // initializing sum to 0
   int sum = 0;
   // Exits the loop when num is 0
   while (num)
   {
      // Adding the last digit of num to sum
      sum += num%10;
      // Removes the last digit of num
      num /= 10;
   }
   printf("Sum of it's digits: %d \n",sum);
   return 0;

}
```

OUTPUT

```
Enter ther five digit number: 12345
Sum of it's digits: 15
PS D:\Documents\NIT-K\My_Second_Sem\CS111\Lab2_extra>
```

```c
// Lab 2 Questin 4
// Inbasekaran.P 201EC226
/*If a five-digit number is input through the keyboard,
write a program to reverse the number*/

// 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");
   // input number
   int num;
   printf("Enter ther five digit number: ");
   scanf("%d",&num);
   int rev_num = 0;
   // Exits the loop when num is 0
   while (num)
   {
       rev_num *= 10;
       // Adding last digit of num to rev_num
       rev_num += num%10;
       // Removing the last digit
       num /= 10;
   }
    printf("Reverse of the number: %d",rev_num);
    return 0;
}
```

OUTPUT

```
Enter ther five digit number: 12345
Reverse of the number: 54321
PS D:\Documents\NIT-K\My_Second_Sem\CS111\Lab2_extra>
```

```c
// Lab 2 Questin 5
// Inbasekaran.P 201EC226
/* If the total selling price of 15 items and the total prof
it earned on
them is input through the keyboard, write a program to find
the cost price of one item.*/
// 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
float SP,P;
// input
printf("Enter Selling Price:");
scanf("%f",&SP);
printf("Enter Profit:");
scanf("%f",&P);
// CP = SP - P
printf("Cost Price of each item is: %f\n",(SP-P)/15);
 return 0;
}
```

OUTPUT

```
Enter Selling Price:74.28
Enter Profit:22.12
Cost Price of each item is: 3.477333
PS D:\Documents\NIT-K\My_Second_Sem\CS111\Lab2_extra>
```

```c
// Lab 2 Questin 6
// Inbasekaran.P 201EC226
/* Write a program to compute the values of square-roots
 and squares of the numbers 0 to 100 in steps 10*/

// 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");
  // print square-root
  printf("Square-Root\n");
  for (int i = 0; i <= 100; i += 10)
  {
    printf("The square-root of %3d is %7.4lf\n",i,sqrt(i));
  }
  // print squares
  printf("\nSquare\n");
  for (int i = 0; i <= 100; i += 10)
  {
    printf("The square of %3d is %5d\n",i,(int)pow(i,2));
  }
  return 0;
}
```

OUTPUT

```
Square-Root
The square-root of   0 is  0.0000
The square-root of  10 is  3.1623
The square-root of  20 is  4.4721
The square-root of  30 is  5.4772
The square-root of  40 is  6.3246
The square-root of  50 is  7.0711
The square-root of  60 is  7.7460
The square-root of  70 is  8.3666
The square-root of  80 is  8.9443
The square-root of  90 is  9.4868
The square-root of 100 is 10.0000

Square
The square of   0 is     0
The square of  10 is   100
The square of  20 is   400
The square of  30 is   900
The square of  40 is  1600
The square of  50 is  2500
The square of  60 is  3600
The square of  70 is  4900
The square of  80 is  6400
The square of  90 is  8100
The square of 100 is 10000
PS D:\Documents\NIT-K\My_Second_Sem\CS111\Lab2_extra>
```