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;
   // Adding the last digit of num to sum
   sum += num%10;
   // Removes the last digit of num
   num /= 10;
   // Repeating the above steps for 4 more times
   sum += num%10;
   num /= 10;
   sum += num%10;
   num /= 10;
   sum += num%10;
   num /= 10;
   sum += num%10;
   // Output
   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;
   rev_num *= 10;
   // Adding last digit of num to rev_num
   rev_num += num%10;
   // Removing the last digit
   num /= 10;
   // Repeating the same step for fore more times
   rev_num *= 10;
   // Adding last digit of num to rev_num
   rev_num += num%10;
   // Removing the last digit
   num /= 10;rev_num *= 10;
   // Adding last digit of num to rev_num
   rev_num += num%10;
   // Removing the last digit
   num /= 10;rev_num *= 10;
   // Adding last digit of num to rev_num
   rev_num += num%10;
   // Removing the last digit
   num /= 10;rev_num *= 10;
   // Adding last digit of num to rev_num
   rev_num += 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 and squares
  int i = 0;
  printf("The square-root of %3d is %7.4lf\n",i,sqrt(i));
  printf("The square of %3d is %5d\n",i,(int)pow(i,2));
  i += 10;
  printf("The square-root of %3d is %7.4lf\n",i,sqrt(i));
  printf("The square of %3d is %5d\n",i,(int)pow(i,2));
  i += 10;
  printf("The square-root of %3d is %7.4lf\n",i,sqrt(i));
  printf("The square of %3d is %5d\n",i,(int)pow(i,2));
  i += 10;
  printf("The square-root of %3d is %7.4lf\n",i,sqrt(i));
  printf("The square of %3d is %5d\n",i,(int)pow(i,2));
  i += 10;
  printf("The square-root of %3d is %7.4lf\n",i,sqrt(i));
  printf("The square of %3d is %5d\n",i,(int)pow(i,2));
  i += 10;
  printf("The square-root of %3d is %7.4lf\n",i,sqrt(i));
  printf("The square of %3d is %5d\n",i,(int)pow(i,2));
  i += 10;
  printf("The square-root of %3d is %7.4lf\n",i,sqrt(i));
  printf("The square of %3d is %5d\n",i,(int)pow(i,2));
  i += 10;
  printf("The square-root of %3d is %7.4lf\n",i,sqrt(i));
  printf("The square of %3d is %5d\n",i,(int)pow(i,2));
  i += 10;
```

PTO

```c
    printf("The square-root of %3d is %7.4lf\n",i,sqrt(i));
    printf("The square of %3d is %5d\n",i,(int)pow(i,2));
    i += 10;
    printf("The square-root of %3d is %7.4lf\n",i,sqrt(i));
    printf("The square of %3d is %5d\n",i,(int)pow(i,2));
    i += 10;
    printf("The square-root of %3d is %7.4lf\n",i,sqrt(i));
    printf("The square of %3d is %5d\n",i,(int)pow(i,2));
    i += 10;
    return 0;
}
```

OUTPUT

```
The square-root of   0 is  0.0000
The square of   0 is     0
The square-root of  10 is  3.1623
The square of  10 is   100
The square-root of  20 is  4.4721
The square of  20 is   400
The square-root of  30 is  5.4772
The square of  30 is   900
The square-root of  40 is  6.3246
The square of  40 is  1600
The square-root of  50 is  7.0711
The square of  50 is  2500
The square-root of  60 is  7.7460
The square of  60 is  3600
The square-root of  70 is  8.3666
The square of  70 is  4900
The square-root of  80 is  8.9443
The square of  80 is  6400
The square-root of  90 is  9.4868
The square of  90 is  8100
The square-root of 100 is 10.0000
The square of 100 is 10000
PS D:\Documents\NIT-K\My_Second_Sem\CS111\Lab2_extra>
```