Program -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.

Algorithm -1

Step 1:Enter the distance in Km.

//Comment: Use the variables m, cm, ft, inch.

Step 2: m = km *1000.

Step 3: cm = m * 100.

Step 4: ft = cm * 0.0328084.

Step 5: inch = ft * 12.

Step 6: PRINT m,cm,ft,inch

Program 1

Step 1:Enter the distance in Km.

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Step 2: m = km *1000.

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Step 5: inch = ft * 12.

Step 6: PRINT m,cm,ft,inch

```c
#include<stdio.h>
main()
{
    float km,m,cm,ft,inch;
    printf("Enter the distance in Km");
    scanf("%f",&km);
    m = km*1000;
    cm = m * 100;
    ft= cm * 0.0328084;
    inch = ft * 12;
    printf("%f km in metres is %f", km,m);
    printf("\n%f km in centimetres is %f", km,cm);
    printf("\n%f km in feet is %f", km,ft);
    printf("\n%f km in inches is %f", km,inch);
}
```

```
C:\Users\SUNANDA\Desktop\lab programs\prog1.exe
Enter the distance in Km5
5.000000 km in metres is 5000.000000
5.000000 km in centimetres is 500000.000000
5.000000 km in feet is 16404.199219
5.000000 km in inches is 196850.390625
--------------------------------
Process exited after 3.962 seconds with return value 0
Press any key to continue . . .
```

Program 1

```c
#include<stdio.h>
main()
{
    float km,m,cm,ft,inch;
    printf("Enter the distance in Km");
    scanf("%f",&km);
    m = km*1000;
    cm = m * 100;
    ft= cm * 0.0328084;
    inch = ft * 12;
    printf("%.2f km in metres is %.2f", km,m);
    printf("\n%.2f km in centimetres is %.2f", km,cm);
    printf("\n%.2f km in feet is %.2f", km,ft);
    printf("\n%.2f km in inches is %.2f", km,inch);
}
```

```
C:\Users\SUNANDA\Desktop\lab programs\prog1.exe
Enter the distance in Km5
5.00 km in metres is 5000.00
5.00 km in centimetres is 500000.00
5.00 km in feet is 16404.20
5.00 km in inches is 196850.39
--------------------------------
Process exited after 2.045 seconds with return value 0
Press any key to continue . . .
```

Program -2

The length & breadth of a rectangle and radius of a circle are input through the keyboard. Write a program to calculate the area & perimeter of the rectangle, and the area & circumference of the circle.

Algorithm 2

Step 1: Enter length and breadth of rectangle.

Step 2:Enter radius of a circle.

Step 3: Pi=3.1414

Step 4: Area_R = length * breadth

Step 5: Perimeter = 2*(length+breadth)

Step 6: Area_C = pi * r*r

Step 7: Circumfrence = 2*pi*r.

Step 8: PRINT Area_R, Area_C, Perimeter, Circumfrence

```c
#include<stdio.h>
main()
{
    float length, breadth, radius, area_R, area_C, perimeter, circumfrence, PI;
    PI= 3.1414;
    printf("Enter length of rectangle");
    scanf("%f",&length);
        printf("Enter breadth of rectangle");
    scanf("%f",&breadth);
    area_R = Length * breadth;
    perimeter= 2*(length + breadth);
    printf("Enter radius of circle");
    scanf("%f",&radius);
    area_C = pi * radius * radius;
    circumfrence = 2 * PI *radius;
    printf("Area of Rectangle = %f", area_R);
    printf("\n Perimeter of Rectangle = %f", perimeter);
    printf("\nArea of Circle = %f", area_C);
    printf("\n Circumfrence of circle = %f", circumfrence);

}
```

Fig. (a)

Fig. (b)

```c
#include<stdio.h>
main()
{
    float length, breadth, radius, area_R, area_C, perimeter, circumfrence, PI;
    PI= 3.1414;
    printf("Enter length of rectangle");
    scanf("%f",&length);
        printf("Enter breadth of rectangle");
    scanf("%f",&breadth);
    area_R = length * breadth;
    perimeter= 2*(length + breadth);
    printf("Enter radius of circle");
    scanf("%f",&radius);
    area_C = pi * radius * radius;
    circumfrence = 2 * PI *radius;
    printf("Area of Rectangle = %f", area_R);
    printf("\n Perimeter of Rectangle = %f", perimeter);
    printf("\nArea of Circle = %f", area_C);
    printf("\n Circumfrence of circle = %f", circumfrence);

}
```

```c
#include<stdio.h>
main()
{
    float length, breadth, radius, area_R, area_C, perimeter, circumfrence, PI;
    PI= 3.1414;
    printf("Enter length of rectangle");
    scanf("%f",&length);
        printf("Enter breadth of rectangle");
    scanf("%f",&breadth);
    area_R = length * breadth;
    perimeter= 2*(length + breadth);
    printf("Enter radius of circle");
    scanf("%f",&radius);
    area_C = PI * radius * radius;
    circumfrence = 2 * PI *radius;
    printf("Area of Rectangle = %f", area_R);
    printf("\n Perimeter of Rectangle = %f", perimeter);
    printf("\nArea of Circle = %f", area_C);
    printf("\n Circumfrence of circle = %f", circumfrence);

}
```

```
Enter length of rectangle5
Enter breadth of rectangle4
Enter radius of circle5
Area of Rectangle = 20.000000
 Perimeter of Rectangle = 18.000000
Area of Circle = 78.535004
 Circumfrence of circle = 31.414001
--------------------------------
```

Program-3

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

Algorithm

Step1: Enter a 5 digit number ‘n’.

Step 2: Initialize sum =0.

Step 3: b=n%10. n=n/10; sum =sum+b.

Step 4: b=n%10. n=n/10; sum =sum+b.

Step 5: b=n%10. n=n/10; sum =sum+b.

Step 6: b=n%10. n=n/10; sum =sum+b.

Step 7: b=n%10. n=n/10; sum =sum+b.

Step 8: Print sum.

Example:

Step1: 12345

Step 2: sum =0

Step 3: b = 5. n =1234. sum= 5

Step 4: b =4. n=123. sum= 5+4

Step 5: b=3. n=12. sum=9 + 3

Step 6: b=2 . n =1. sum=12 +2

Step 7: b=1. n =0. sum=14 + 1

Step 8: Print 15

```c
#include<stdio.h>
main()
{
    int n,b,sum=0;
    printf("Enter a 5 digit number");
    scanf("%d", &n);
    b=n%10;
    n= n/10;
    sum = sum +b;
    b=n%10;
    n= n/10;
    sum = sum +b;
    b=n%10;
    n= n/10;
    sum = sum +b;
    b=n%10;
    n= n/10;
    sum = sum +b;
    b=n%10;
    n= n/10;
    sum = sum +b;
    printf("Sum =%d",sum);
}
```

Step 3

Step 4

Step 5

Step 6

Step 7

```
Enter a 5 digit number99876
Sum =39
--------------------------------
Process exited after 5.737 seconds with return value 0
Press any key to continue . . .
```

Prog. 4: If a five-digit number is input through the keyboard, write a program to reverse the number

Prog. 5: Two numbers are input through the keyboard into two memory

locations C and D. Write a program to interchange the contents of C and D.

Prog. 6: If a four-digit number is input through the keyboard, write a program to obtain the sum of the first and last digit of this number.

Prog. 7: If the total selling price of 15 items and the total profit earned on them is input through the keyboard, write a program to find the cost price of one item.