Basic Declaration and Expressions

1. Write a C program to print the following characters in a reverse way.
   Test Characters: 'X', 'M', 'L'

   Expected Output:
     The reverse of XML is LMX

2. Write a C program to compute the perimeter and area of a rectangle with a height
   of 7 inches. and width of 5 inches.

   Expected Output:
     Perimeter of the rectangle = 24 inches
     Area of the rectangle = 35 square inches

3. Write a C program to compute the perimeter and area of a circle with a given radius of 6 inch.

   Expected Output:
   Perimeter of the Circle = 37.680000 inches   Note:-Take pi=3.14
   Area of the Circle = 113.040001 square inches

4. Write a C program to display multiple variables.
   Sample Variables :
   a+ c, x + c,dx + x, ((int) dx) + ax, a + x, s + b, ax + b, s + c, ax + c, ax + ux
   Declaration :
   int a = 125, b = 12345;
   long ax = 1234567890;
   short s = 4043;
   float x = 2.13459;
   double dx = 1.1415927;
   char c = 'W';
   unsigned long ux = 2541567890;

   Sample output:
   a + c = 212
   x + c = 89.134590
   dx + x = 3.276183
   ((int) dx) + ax = 1234567891
   a + x = 127.134590
   s + b = 16388
   ax + b = 1234580235
   s + c = 4130
   ax + c = 1234567977
   ax + ux = 3776135780

5. Write a C program that accepts three integers and find the maximum of three.
   Test Data :
   Input the first integer: 25
   Input the second integer: 35
   Input the third integer: 15

   Expected Output:
     Maximum value of three integers: 35

6. Write a C program to calculate the distance between the two points.
Test Data :
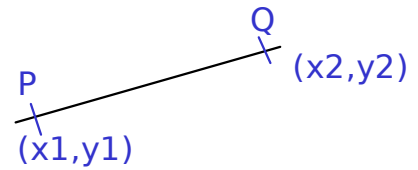Input x1: 25
Input y1: 15
Input x2: 35
Input y2: 10
Expected Output:
Distance between the said points: 11.1803

$$\sqrt{(x2-x1)*(x2-x1)+(y2-y1)*(y2-y1)}$$

Sample Output:

Input x1: 25
Input y1: 15
Input x2: 35
Input y2: 10
Distance between the said points: 11.1803

7. Write a C program to convert a given integer (in seconds) to hours, minutes and seconds.
Test Data :
Input seconds: 25300

Expected Output:
There are:
H:M:S - 7:1:40

H=sec/3600

M=(sec-(h*3600))/60

S=sec-

8. Write a C program to print the roots of Bhaskara's formula from the given three
floating numbers. Display a message if it is not possible to find the roots.
Test Data :
Input the first number(a): 25
Input the second number(b): 35
Input the third number(c): 12

Expected Output:
Root1 = -0.60000
Root2 = -0.80000

Bhaskara's formula
$$ax^2+bx+c=0$$

$$x_1 = \frac{-b +\sqrt{b^2- 4ac}}{2a}$$

$$x_2 = \frac{-b - \sqrt{b^2- 4ac}}{2a}$$

1. Write a C program to print your name, date of birth. and mobile number.
   Expected Output:

   Name   : Arun Singh
   DOB   : July 14, 1975
   Mobile : 99-9999999999

2. Write a C program to convert specified days into years, weeks and days.
   Note: Ignore leap year.

   Test Data :
   Number of days : 1329
   Expected Output :
   Years: 3
   Weeks: 33
   Days: 3

3. Write a C program that accepts two integers from the user and calculate the sum
   of the two integers.
   Test Data :
   Input the first integer: 25
   Input the second integer: 38
   Expected Output:
   Sum of the above two integers = 63

4. Write a C program that accepts two item's weight (floating points' values) and
   number of purchase (floating points' values) and calculate the average value of the items.
   Test Data :
   Weight - Item1: 15
   No. of item1: 5
   Weight - Item2: 25
   No. of item2: 4
   Expected Output:
   Average Value = 19.444444

5. Write a C program to read an amount (integer value) and break the amount into
   smallest possible number of bank notes.
   Test Data :
   Input the amount: 375
   Expected Output:
   There are:
   3 Note(s) of 100.00
   1 Note(s) of 50.00
   1 Note(s) of 20.00
   0 Note(s) of 10.00
   1 Note(s) of 5.00
   0 Note(s) of 2.00
   0 Note(s) of 1.00

6. Write a C program to convert a given integer (in days) to years, months and days, assumes that all months have 30 days and all years have 365 days.
Test Data :
Input no. of days: 2535
Expected Output:
6 Year(s)
11 Month(s)
15 Day(s)