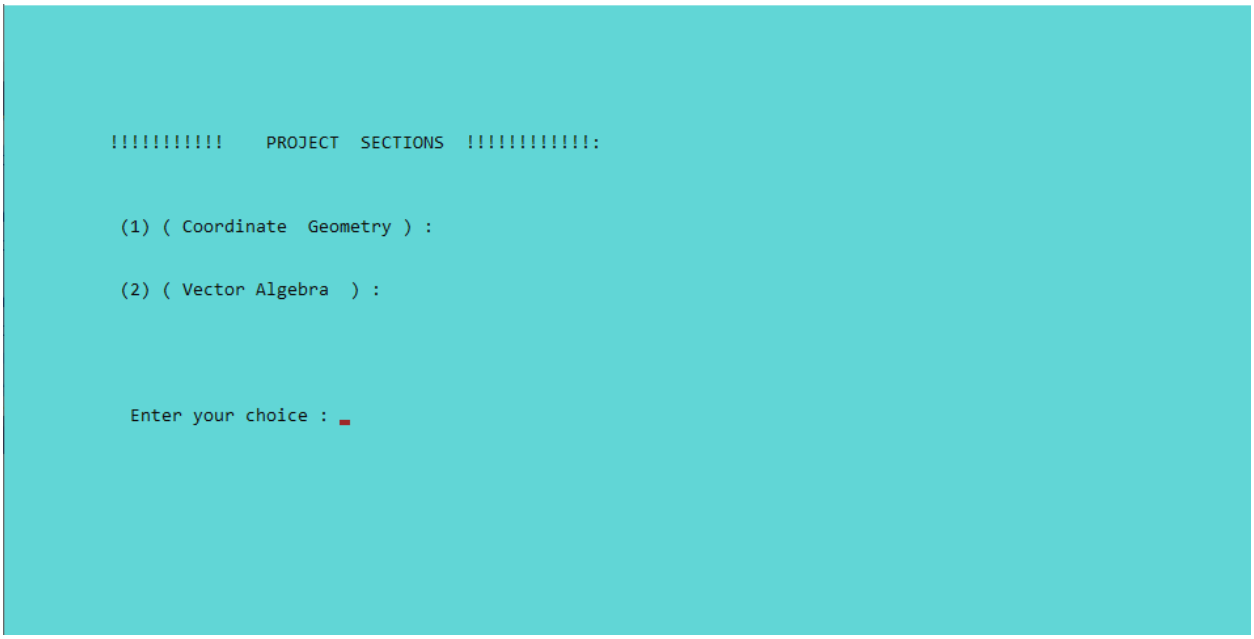
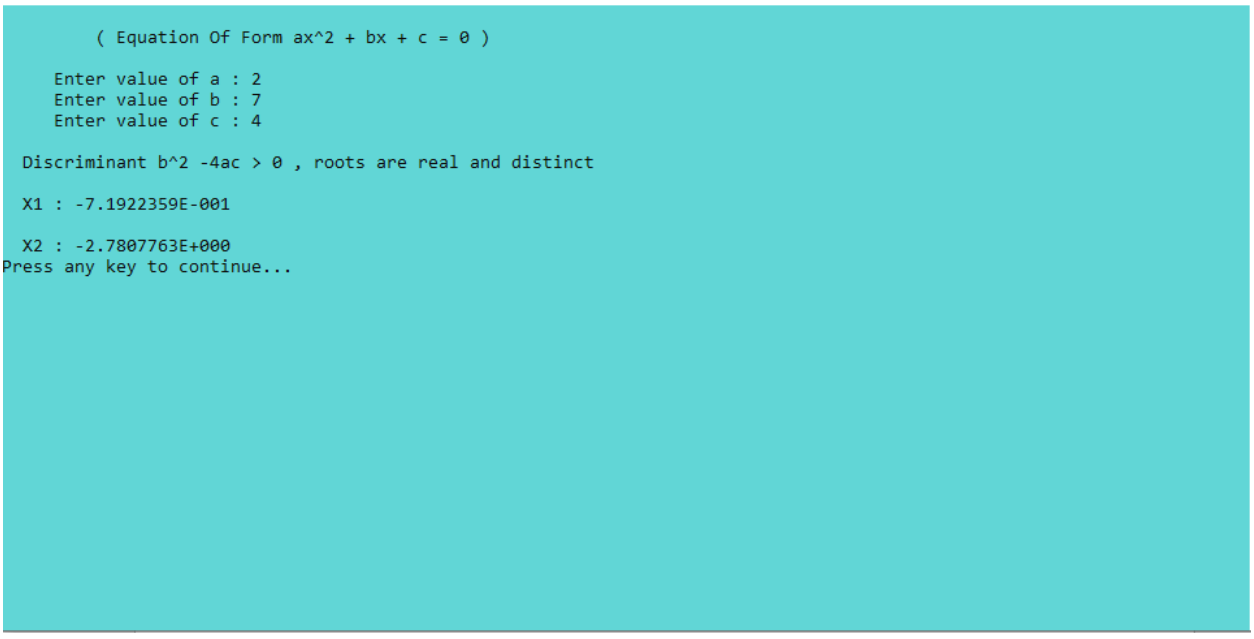
OUTPUT :


!!!!!!!!!!! PROJECT SECTIONS !!!!!!!!!!!!:
(1) (Coordinate Geometry) :
(2) (Vector Algebra) :
Enter your choice :


(Equation Of Form ax^2 + bx + c = 0)
Enter value of a : 2
Enter value of b : 7
Enter value of c : 4
Discriminant b^2 -4ac > 0 , roots are real and distinct
X1 : -7.1922359E-001
X2 : -2.7807763E+000
Press any key to continue...

```
( Straight Line Of Form : ax + by = c )

For Line 1:

Enter a :1

Enter b :4

Enter c :3

For Line 2:

Enter a :8

Enter b :6

Enter c :4

Point Of Intersection ( +2/-26 , -20/-26 )    OR

                  (-7.6923079E-002 ,+7.6923078E-001 )
Press any key to continue...
```

```
    ( Distance B/W Points )

   Enter x1 : 5

   Enter x2 : 6

   Enter y1 : 1

   Enter y2 : 4

 Distance : sqrt(10)  =  +3.1622776E+000 approx
Press any key to continue...
```

```
        ( Line of the form ax + by = c )

   Enter a : 5

   Enter b : 4

   Enter c : 9

      slope : -1.2500000E+000

      y-intercept : +2.2500000E+000

      x-intercept : +1.8000000E+000

      Angle from x-axis: -5.1340191E+001 degrees
Press any key to continue...
```

```
       ( Angle B/W Lines )

     Enter slop of line 1 : 6
     Enter slop of line 2 : 2


        Angle : +1.7102729E+001 degrees

Press any key to continue...
```

```
      >>>>>>>> Trigonometric Ratios <<<<<<<<<


   Enter angle in degrees : 30


     sinQ : +5.0000000E-001      cosecQ : +2.0000000E+000

     cos : +8.6602538E-001       sec : +1.1547005E+000

    tanQ : +5.7735025E-001      cotQ : +1.7320507E+000
Press any key to continue...
```

```
              ( Area Of Triangle ):


       Enter lenght of side 1 : 5

       Enter lenght of side 2 : 8

       Enter lenght of side 3 : 4


     Area of triangle is : +8.1815340E+000 sq.units
Press any key to continue...
```

```
        >>>>>>>> Centroid Of Triangle <<<<<<<

    For vertex A:
    Enter x1 : 5
    Enter y1 : 6

    For vertex B:
    Enter x2 : 3
    Enter y2 : 4

    For vertex C:
    Enter x3 : 9
    Enter y3 : 1


    Coordinates : ( +5.6666666E+000 , +3.6666666E+000),0ahPress any key to continue...
```

```
        >>>>>>>> Incentre Of Triangle <<<<<<<

    For vertex A:
    Enter x1 : 7
    Enter y1 : 5

    For vertex B:
    Enter x2 : 3
    Enter y2 : 5

    For vertex C:
    Enter x3 : 9
    Enter y3 : 2


    Coordinates : ( +6.5513262E+000 , +4.1616454E+000 )
Press any key to continue...
```

```
            ( Circum-Radius Of Triangle ):

      Enter lenght of side 1 : 7

      Enter lenght of side 2 : 5

      Enter lenght of side 3 : 6


      Circum-Radius : +3.5721725E+000
Press any key to continue...
```

```
            >>>>>>>>>>>> VECTOR  ALGEBRA >>>>>>>>>>>>

        (1)  Magnitude_Of_A_Vector

        (2)  Unit_Vector

        (3)  Angle_BW_Vectors

        (4)  Dot_Product

        (5)  Vector_Product

        (6)  Linear_Combination_Of_Vectors


        Enter Your Choice :
```

```
            ( Magnitude Of Vector )

         Enter x-coordinate : 5

         Enter y-coordinate : 2

         Enter z-coordinate : 7


        Magnitude : sqrt( +7.8000000E+001 ) = +8.8317608E+000 approx
Press any key to continue...
```

```
            >>>>>>>> Unit Vector <<<<<<

         Enter x-coordinate : 6

         Enter y-coordinate : 7

         Enter z-coordinate : 2


        Unit Vector  : ( +6i +7j +2k ) / sqrt 89

                     : (+6.3599874E-001)i (+7.4199853E-001)j (+2.1199958E-001)k
Press any key to continue...
```

```
            >>>>>>>> Angle B/W Vectors <<<<<<

      For Vector 1 :

         Enter x-coordinate : 1

         Enter y-coordinate : 2

         Enter z-coordinate : 3


      For Vector 2 :

         Enter x-coordinate : 7

         Enter y-coordinate : 4

         Enter z-coordinate : 5


     Angle :( +5.6394265E-001 ) radians

           :( +3.2311534E+001 ) degrees
Press any key to continue...
```

```
            >>>>>>>> Dot Product <<<<<<

      For Vector 1 :

         Enter x-coordinate : 7

         Enter y-coordinate : 1

         Enter z-coordinate : 3


      For Vector 2 :

         Enter x-coordinate : 7

         Enter y-coordinate : 3

         Enter z-coordinate : 99


       Dot Product : +349
Press any key to continue...
```

```
            >>>>>>>> Vector Product / Perpendicular Product <<<<<<

      For Vector 1 :

         Enter x-coordinate : 2

         Enter y-coordinate : 3

         Enter z-coordinate : 7


      For Vector 2 :

         Enter x-coordinate : 1

         Enter y-coordinate : 4

         Enter z-coordinate : 5


 Vector Product / Perpendicular Vector : -13i -3j +5k
Press any key to continue...
```

```
( Linear Combination )

For vector v1:

Enter x-coordinate :1

Enter y-coordinate :4

For vector v2 :

Enter x-coordinate :2

Enter y-coordinate :9

For vector v3 (To be expressed) :

Enter x-coordinate :75

Enter y-coordinate :2

Solution : V3 = ( +671/+1 ) v1 + ( -298/+1 ) V2
```