M.Syed-ul-Mursaleen 19B-009-SE Section A

Program Exercise

In [7]:
```
#program-1
from math import sqrt
import cmath
a=eval(input("Enter value of a: "))
b=eval(input("Enter value of b: "))
c=eval(input("Enter value of c: "))

if a == 0:
    print("equation can not be solve due to zero division")
elif (b < a and b < c) or (b > a and b < c) :
    z = (b**2)-(4*a*c)
    x1 = (-b+cmath.sqrt(z))/(2*a)
    x2 = (-b-cmath.sqrt(z)/2*a)
    print("x1= ",x1,"x2= ",x2)
else:
    y = (b**2)-(4*a*c)
    x1 = (-b+sqrt(y))/(2*a)
    x2 = (-b-sqrt(y)/2*a)
    print("x1= ",x1,"x2= ",x2)
```

```
Enter value of a: 1
Enter value of b: 2
Enter value of c: 1
x1=  -1.0 x2=  -2.0
```

In [8]:
```
#program-2
def AP(a,d):
    x= input("do you want to find nth term yes or no:")
    while (x == "yes" ):
        n=int(input("Enter nth term: "))
        Tn =a+((n-1)*d)
        print(Tn)
        x= input("do you want to find another nth term yes or no:")
    return "the answer of last term you asked is ",Tn
a=eval(input("Enter first term: "))
d=eval(input("Enter common difference: "))
AP(a,d)
```

```
Enter first term: 3
Enter common difference: 6
do you want to find nth term yes or no:yes
Enter nth term: 35
207
do you want to find another nth term yes or no:yes
Enter nth term: 45
267
do you want to find another nth term yes or no:yes
Enter nth term: 96
573
do you want to find another nth term yes or no:no
```

Out[8]:
```
('the answer of last term you asked is ', 573)
```

In [12]:
```
#program-3
t = input("Enter text you want to check:  ")
x = t.casefold()
a = len(t)
z = t[a::-1]
if x == z:
    print("Yes your string is Palindrome ")
else:
    print("your text is not a palindrome")
```

```
Enter text you want to check:  civic
Yes your string is Palindrome
```

In [24]:
```
###### program-4
name = input("Enter Name: ")
F_name = input("Enter Father Name: ")
Roll = eval(input("Enter Roll No: "))
English= eval(input("Enter marks of English: "))
Urdu= eval(input("Enter marks of urdu: "))
Maths= eval(input("Enter marks of maths: "))
Islamiat= eval(input("Enter marks of Islamiat: "))
Pak_studies= eval(input("Enter marks of Pak studies: "))

t_marks = 500
obtained= English+Urdu+Maths+Islamiat+Pak_studies
percent = (obtained/t_marks)*100
if percent >=80:
    g="A+"
elif percent >=70:
    g="A"
elif percent >=60:
    g="B"
elif percent >=50:
    g="C"
elif percent >=40:
    g="D"
else:
    g="Fail"
print("")
print("-----------------------------------------------------------")
print("\t\tBoard of Secondary Education Karachi\n\t\t\tFSC EXAMINATION")
print("-----------------------------------------------------------")
print("Name",name,"\t Father Name: ",F_name,"\t Roll No: ",Roll)
print("-----------------------------------------------------------")
print("")
print("\t\tEnglish:  ",English,"| 100\n\t\tUrdu:     ",Urdu,"| 100\n\t\tMaths:
",Maths,"| 100\n\t\tIslamiat: ",Islamiat,"| 100\n\t\tPak study:",Pak_studies,
"| 100")
print("-----------------------------------------------------------")
print("\ttotal:",obtained,"| percent ",percent,"| grade: ",g)
print("-----------------------------------------------------------")
```

```
Enter Name: Mursaleen
Enter Father Name: Saleh Zahoor
Enter Roll No: 9
Enter marks of English: 77
Enter marks of urdu: 88
Enter marks of maths: 98
Enter marks of Islamiat: 76
Enter marks of Pak studies: 67

------------------------------------------------------------
                Board of Secondary Education Karachi
                        FSC EXAMINATION
------------------------------------------------------------
Name Mursaleen   Father Name:  Saleh Zahoor      Roll No:  9
------------------------------------------------------------

                English:   77 | 100
                Urdu:      88 | 100
                Maths:     98 | 100
                Islamiat:  76 | 100
                Pak study: 67 | 100
------------------------------------------------------------
        total: 406 | percent  81.2 | grade:  A+
------------------------------------------------------------
```

In [2]:
```
#program-5
rowNum = int(input("Enter number of rows"))
colNum = int(input("Enter number of columns"))
matrix = []
print("row wise entries")
for row in range(rowNum):
    a = []
    for col in range(colNum):
        a.append(int(input("")))
    matrix.append(a)

for row in range(rowNum):
    for col in range(colNum):
        print(matrix[row][col],end = " ")
    print()
```

```
Enter number of rows5
Enter number of columns5
row wise entries
1
2
3
4
5
2
4
6
8
10
3
6
9
12
15
4
8
12
16
20
5
10
15
20
25
1 2 3 4 5
2 4 6 8 10
3 6 9 12 15
4 8 12 16 20
5 10 15 20 25
```

In [30]:
```
#program-6
X = [[1,2],[7,8]]

Y = [[4,5],[6,7]]

result = [[0,0],[0,0]]

for i in range(len(X)):
    for j in range(len(Y)):
            result[i][j] += X[i][j] + Y[i][j]
for r in result:
    print(r)
```

```
[5, 7]
[13, 15]
```

In [1]:
```
#program-7
X = [[1,2],[7,8]]
Y = [[4,5],[6,7]]
result = [[0,0],[0,0]]
for i in range(len(X)):
    for j in range(len(Y[0])):
        result[i][j] = X[i][j] * Y[j][i]
for r in result:
    print(r)
```

```
[4, 12]
[35, 56]
```