

## Gul e hasnain 19B-010-SE Section - A Lab 04 exercise

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In [3]: # ex 1
from math import sqrt
import cmath
a = eval(input("Input the value of a: "))
b = eval(input("Input the value of b: "))
c = eval(input("Input the value of c: "))
if a == 0:
    print("equation cannot be solved")
elif (b < a and b < c) or (b > a and b < c):
    d = (b**2) - (4*a*c)
    x = -b + cmath.sqrt(d) / (2*a)
    y = -b - cmath.sqrt(d) / (2*a)
    print("The two values of x are: ",x," ", y)
else:
    d = (b**2) - (4 * a * c)
    x = -b + sqrt(d) / (2*a)
    x = -b - sqrt(d) / (2*a)
    print("The two values of x are: ",x, " ", y)
```

Input the value of a: 1

Input the value of b: 5

Input the value of c: 6

The two values of x are: (-4.5+0j) (-5.5+0j)

```
In [1]: # exercise 2
def sequence(a,d):
    x = str(input("Do you want to find the nth term Yes or No: "))
    y = x.casefold()
    #print(y)
    while(y == "yes"):
        n = int(input("Enter the nth term you want to find: "))
        tn = a + ((n - 1) * d)
        print(tn)
        x = input("Do you want to find another nth term of the sequence: ")
        y = x.casefold()
    return "The answer of the nth term you entered is: ", tn
a = int(input("Enter the first term of the sequence: "))
d = int(input("Enter the common difference of the sequence: "))
sequence(a,d)
```

```
Enter the first term of the sequence: 3
Enter the common difference of the sequence: 6
Do you want to find the nth term Yes or No: YES
Enter the nth term you want to find: 35
207
Do you want to find another nth term of the sequence: Yes
Enter the nth term you want to find: 45
267
Do you want to find another nth term of the sequence: YES
Enter the nth term you want to find: 96
573
Do you want to find another nth term of the sequence: no
```

```
Out[1]: ('The answer of the nth term you entered is: ', 573)
```

```
In [51]: # exercise 3
text = input("Enter the text you want to check for palindrome: ")
x = text.casefold()
#print(x)
y = len(text)
z = text[y::-1]
#print(z)
if x == z:
    print("Yes your string is palindrome")
else:
    print("Sorry! your string is not palindrome")
```

Enter the text you want to check for palindrome: civic  
Yes your string is palindrome



Enter your Math marks: 90  
Enter your Physics marks: 89  
Enter your Computer marks: 87  
Enter your Urdu marks: 78  
Enter your Islamiat marks: 92

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Board of Secondary Education, Karachi  
STATEMENT OF MARKS  
F.S.C EXAMINATION

SCIENCE GROUP  
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Name: Gul e hasnain      Father Name: Waseem      Roll No: 10      Date of birth: 22 January 2000  
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Maths:	90		100
Physics:	89		100
Computer:	87		100
Urdu:	78		100
Islamiat:	92		100

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Total: 436      |      Percentage: 87.2 %      |      Grade: A  
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In [1]: # Exercise 5
row_num = int(input("input the number of rows: "))
col_num = int(input("input the number of columns: "))

matrix = []
print("Enter the entries row wise: ")
for row in range(row_num):
    a = []
    for col in range(col_num):
        a.append(int(input()))
    matrix.append(a)

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

```
input the number of rows: 5
input the number of columns: 5
Enter the entries row wise:
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 [23]: # Exercise 6
x = [[1, 2, 2],[2, 3, 2],[2, 4, 2]]

y = [[3, 4, 2],[4, 5, 2],[5, 4, 3]]

result = [[0, 0, 0],[0, 0, 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)
```

```
[4, 6, 4]
[6, 8, 4]
[7, 8, 5]
```

```
In [36]: # Exercise 7
x = [[1,2],[3,4]]

y = [[5,6],[7,8]]

result = [[0,0],[0,0]]
for i in range(len(x)):
    #print(i)
    for j in range(len(y[0])):
        #print(y)
        result[i][j] = x[i][j] * y[j][i]

for r in result:
    print(r)
```

```
[5, 14]
[18, 32]
```