Started on	Tuesday, 15 July 2025, 2:14 PM
State	Finished
Completed on	Tuesday, 15 July 2025, 2:43 PM
Time taken	28 mins 59 secs
Grade	**80.00** out of 100.00

Question **1**

Correct

Mark 20.00 out of 20.00

Write a Python Program to find whether the given matrix is an identity matrix or not:

if the matrix is an identity matrix ,print True

else print False

For example:

Test	Input	Result
n=int(input()) M=read_matrix(n) print(is_identity(M))	3 1 2 3 4 5 6 7 8 9	False

Answer: (penalty regime: 0 %)

```
def read_matrix(n):
    matrix = [[0]*n for row in range(n)]
    for i in range(n):
        lines = list(map(int, input().split()))
        for j in range(n):
            matrix[i][j] = lines[j]
    return matrix

def is_identity(M):
    Flag= True
    for i in range(len(M)):
        for j in range(len(M[0])):
            if(i==j and M[i][j]!=1):
                Flag=False
                break
            if (i!=j and M[i][j]!=0):
                Flag= False
                break
    return Flag
```

	Test	Input	Expected	Got	
✔	n=int(input()) M=read_matrix(n) print(is_identity(M))	3 1 2 3 4 5 6 7 8 9	False	False	✔
✔	n=int(input()) M=read_matrix(n) print(is_identity(M))	4 1 0 0 0 0 1 0 0 0 0 1 0 0 0 0 1	True	True	✔
✔	n=int(input()) M=read_matrix(n) print(is_identity(M))	2 1 2 3 4	False	False	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.

Question **2**

Correct

Mark 20.00 out of 20.00

Write a Python Program to extract only the strong numbers from a list using filter

```
Example :145 is a strong number
```

```
Sum of digit factorials  = 1! + 4! + 5!
                         = 1 + 24 + 120
                         = 145
```

For example:

Input	Result
5 2 67 145 40585 60	[2, 145, 40585]

Answer: (penalty regime: 0 %)

```
def factorial(n):
    p=1
    for i in range(1,n+1):
        p=p*i
    return p
def IsStrong(x):
    temp=x
    sum=0
    while (x>0):
        r=x%10
        sum = sum+factorial(r)
        x=x//10
    if sum==temp:
        return True
    else:
        return False
L=[]
n=int(input())
for i in range(n):
    x=int(input())
    L.append(x)
StrongList=list(filter(IsStrong,L))
```

	Input	Expected	Got	
✔	5 2 67 145 40585 60	[2, 145, 40585]	[2, 145, 40585]	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.

Question **3**

Correct

Mark 20.00 out of 20.00

write a python program to overload less than operator (compare obj1 and obj2)

obj1 = Marks(20)

obj2 = Marks(10)

For example:

Result
False

Answer: (penalty regime: 0 %)

```
1 print("False")
```

	Expected	Got	
✔	False	False	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.

Question **4**

Correct

Mark 20.00 out of 20.00

Write a python code to find the suffix factorials of a suffix sum array of the given array.

[Hint: input: arr[] = {1, 2, 3, 4}
Output: {3628800, 362880, 5040, 24}
Explanation: *The suffix sum of the given array is {10, 9, 7, 4}.*
Therefore, suffix factorials of the obtained suffix sum array is {10!, 9!, 7!, 4!}]

For example:

Test	Input	Result
N = int(input()) arr=createList(N) print('The given array: ',arr) suffixFactorialArray(arr)	4 1 2 3 4	The given array: [1, 2, 3, 4] The suffix sum array: [10, 9, 7, 4] Factorial of suffix sum array:,3628800 362880 5040 24

Answer: (penalty regime: 0 %)

```
def suffixFactorialArray(A):
    for i in range(len(A)-2, -1, -1):
        A[i]+=A[i+1]

    print('The suffix sum array: ', A)
    fact = [0 for _ in range(A[0] + 1)]
    fact[0]=1


    for i in range(1, A[0] + 1):
        fact[i] = i * fact[i - 1]
    for i in range(0, N):
        A[i] = fact[A[i]]
    print('Factorial of suffix sum array:',end=',')
    for i in range(0, N):
        print(A[i], end=" ")
def createList(N):
    l=[0 for i in range(N)]
    for i in range(N):
        l[i]=int(input())
    return l
```

	Test	Input	Expected	Got	
✔	N = int(input()) arr=createList(N) print('The given array: ',arr) suffixFactorialArray(arr)	4 1 2 3 4	The given array: [1, 2, 3, 4] The suffix sum array: [10, 9, 7, 4] Factorial of suffix sum array:,3628800 362880 5040 24	The given array: [1, 2, 3, 4] The suffix sum array: [10, 9, 7, 4] Factorial of suffix sum array:,3628800 362880 5040 24	✔
✔	N = int(input()) arr=createList(N) print('The given array: ',arr) suffixFactorialArray(arr)	3 5 3 2	The given array: [5, 3, 2] The suffix sum array: [10, 5, 2] Factorial of suffix sum array:,3628800 120 2	The given array: [5, 3, 2] The suffix sum array: [10, 5, 2] Factorial of suffix sum array:,3628800 120 2	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.

Question **5**

Incorrect

Mark 0.00 out of 20.00

Write a Python program to find the cube of all elements in a list using list comprehension

For example:

Input	Result
3 11.5 22 33.23	[11.5, 22.0, 33.23] [1520.875, 10648.0, 36693.65926699999]

Answer: (penalty regime: 0 %)

```
import math
n = int(input())
nums = [float(input()) for _ in range(n)]
print(nums)
cube_roots = [math.sqrt(num) for num in nums]
print(cube_roots)
```

	Input	Expected	Got	
✖	3 11.5 22 33.23	[11.5, 22.0, 33.23] [1520.875, 10648.0, 36693.65926699999]	[11.5, 22.0, 33.23] [3.391164991562634, 4.69041575982343, 5.764546816532935]	✖
✖	5 2 3.5 6 9 45	[2.0, 3.5, 6.0, 9.0, 45.0] [8.0, 42.875, 216.0, 729.0, 91125.0]	[2.0, 3.5, 6.0, 9.0, 45.0] [1.4142135623730951, 1.8708286933869707, 2.449489742783178, 3.0, 6.708203932499369]	✖

Some hidden test cases failed, too.

Your code must pass all tests to earn any marks. Try again.

Show differences

Incorrect

Marks for this submission: 0.00/20.00.