Started on	Saturday, 8 March 2025, 9:35 AM
State	Finished
Completed on	Saturday, 8 March 2025, 10:31 AM
Time taken	55 mins 43 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 %)

```
1  def read_matrix(n):
2      matrix=[[0]*n for row in range(n)]
3      for i in range(n):
4          lines=list(map(int , input().split()))
5          for j in range(n):
6              matrix[i][j]=lines[j]
7      return matrix
8
9  def is_identity(M):
10     Flag= True
11     for i in range(len(M)):
12         for j in range(len(M[0])):
13             if (i==j and M[i][j]!=1):
14                 Flag=False
15                 break
16             if (i!=j and M[i][j]!=0):
17                 Flag=False
18                 break
19     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.

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Question **2**

Correct

Mark 20.00 out of 20.00

Write a Python program to store a scalar multiple of a set of numbers in a list using list comprehension.

For example:

Input	Result
3 5 11.5 22 33.23	[11.5, 22.0, 33.23] [57.5, 110.0, 166.14999999999998]

Answer: (penalty regime: 0 %)

```
1  n=int(input())
2  scl=int(input())
3  l=[]
4  for i in range(n):
5      x=float(input())
6      l.append(x)
7  sq_l=[item*scl for item in l]
8  print(l)
9  print(sq_l)
```

	Input	Expected	Got	
✔	3 5 11.5 22 33.23	[11.5, 22.0, 33.23] [57.5, 110.0, 166.14999999999998]	[11.5, 22.0, 33.23] [57.5, 110.0, 166.14999999999998]	✔
✔	5 2 2 3.5 6 9 45	[2.0, 3.5, 6.0, 9.0, 45.0] [4.0, 7.0, 12.0, 18.0, 90.0]	[2.0, 3.5, 6.0, 9.0, 45.0] [4.0, 7.0, 12.0, 18.0, 90.0]	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.

Question **3**

Not answered

Mark 0.00 out of 20.00

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

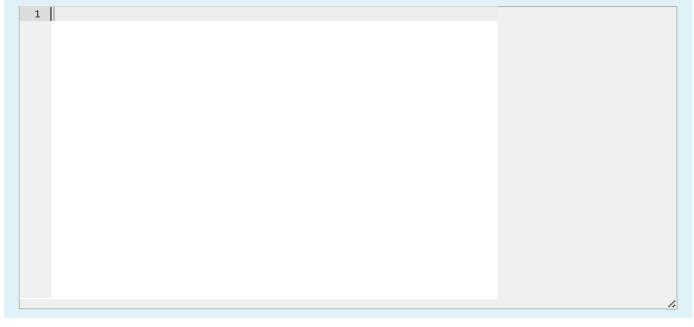[Hint: input: arr[] = {1, 2, 3, 4}
Output: {3628800, 362880, 5040, 24}
Explanation: *The suffix sum of the given array is {10, 9, 7, 4}.*
Therefore, suffix factorials of the obtained suffix sum array is {10!, 9!, 7!, 4!}]

For example:

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

Answer: (penalty regime: 0 %)

```
1
```

Question **4**

Correct

Mark 20.00 out of 20.00

Write a python program to define a function to check the number 1781 is even or odd.

For example:

Input	Result
1781	1781 is Odd number

Answer: (penalty regime: 0 %)

```
1  n=int(input())
2  if n%2==0:
3      print(n,'is Even number')
4  else:
5      print(n,'is Odd number')
```

	Input	Expected	Got	
✔	1781	1781 is Odd number	1781 is Odd number	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.

Question **5**

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 %)

```
 1  def factorial(n):
 2      p=1
 3      for i in range(1,n+1):
 4          p=p*i
 5      return p
 6
 7  def IsStrong(x):
 8      temp=x
 9      sum=0
10      while (x>0):
11          r=x%10
12          sum=sum+factorial(r)
13          x=x//10
14      if temp==sum:
15          return True
16      else:
17          return False
18
19  l=[]
20  n=int(input())
21  for i in range(n):
22      x=int(input())
```

	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.