Started on	Monday, 30 September 2024, 9:00 AM
State	Finished
Completed on	Monday, 30 September 2024, 10:00 AM
Time taken	1 hour
Grade	**80.00** out of 100.00

Question **1**

Correct

Mark 20.00 out of 20.00

Write a program to determine the sum of all elements in the list using recursion

For example:

Test	Input	Result
`print(sum_list(l,len(l)-1))`	3 111 222 333	666

Answer: (penalty regime: 0 %)

Reset answer

```
def sum_list(l,length):
    if length==0:
        return l[0]
    else:
        return l[length]+sum_list(l,length-1)

l=[]
n=int(input())
for i in range(n):
    x=int(input())
    l.append(x)
```

	Test	Input	Expected	Got	
✔	`print(sum_list(l,len(l)-1))`	5 11 22 33 44 55	165	165	✔
✔	`print(sum_list(l,len(l)-1))`	3 111 222 333	666	666	✔

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 find the result of a! + b! using recursion

For example:

Input	Result
3 2	8

Answer: (penalty regime: 0 %)

```
def factorial(n):
    if n<=0:
        return 1
    else:
        return n*factorial(n-1)
a=int(input())
b=int(input())
c=factorial(a)+factorial(b)
print(c)
```

	Input	Expected	Got	
✔	3 2	8	8	✔
✔	5 7	5160	5160	✔
✔	11 6	39917520	39917520	✔

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 print the sum of digits of a positive number using tail recursion

For example:

Input	Result
1675	19

Answer: (penalty regime: 0 %)

```
def sum(num):
    if(num==0):
        return 1
    elif(num>0):
        return num%10+sum(num//10)
    else:
        return "Not defined"
num=int(input())
print(sum(num-1))
```

	Input	Expected	Got	
✔	1675	19	19	✔
✔	453	12	12	✔
✔	-13	Not defined	Not defined	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.

Question **4**

Incorrect

Mark 0.00 out of 20.00

Write a python program to define a function that returns factorial of a number.

For example:

Input	Result
5	Factorial is 120

Answer: (penalty regime: 0 %)

```
[5]


def fact(n):
    if n==0:
        return 1
    else:
        return n*fact(n-1)

def series(x,n):
    if(n==0):
        return x
    else:
        return (((-1)**n)*(x**(2*n+1)/(2*n+1)) + series(x,n-1))


x=int(input())
n=int(input())
print(series(x,n))


[2]
```

	Input	Expected	Got	
✖	5	Factorial is 120	***Run error*** Traceback (most recent call last): File "__tester__.python3", line 18, in <module> n=int(input()) EOFError: EOF when reading a line	✖

Testing was aborted due to error.

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

Show differences

Incorrect

Marks for this submission: 0.00/20.00.

Question **5**

Correct

Mark 20.00 out of 20.00

Write a python program to evaluate the $\tan^{-1} x$ series using recursion

Answer: (penalty regime: 0 %)

```
1
2
3  def fact(n):
4      if n==0:
5          return 1
6      else:
7          return n*fact(n-1)
8
9  def series(x,n):
10     if(n==0):
11         return x
12     else:
13         return (((-1)**n)*(x**(2*n+1)/(2*n+1)) + series(x,n-1))
14
15
16 x=int(input())
17 n=int(input())
18 print(series(x,n))
```

	Input	Expected	Got	
✔	1 3	0.7238095238095239	0.7238095238095239	✔
✔	2 4	44.336507936507935	44.336507936507935	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.