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State Finished

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Time taken 4 days 21 hours

Marks 10.00/10.00

Grade 100.00 out of 100.00

Question 1

Correct

Mark 1.00 out of 1.00

A number is stable if each digit occur the same number of times.i.e, the frequency of each digit in the number is the same. For e.g. 2277,4004,11,23,583835,1010 are examples for stable numbers.

Similarly, a number is unstable if the frequency of each digit in the number is NOT same.

Sample Input:

2277

Sample Output:

Stable Number

Sample Input 2:

121

Sample Output 2:

Unstable Number

For example:

Input	Result
2277	Stable Number

Answer: (penalty regime: 0 %)

```
1 def Isstable(num):
2     num_str=str(num)
3     digit_count={}
4     for digit in num_str:
5         digit_count[digit]=digit_count.get(digit,0)+1
6     frequencies=list(digit_count.values())
7     return len(set(frequencies))==1
8 a=int(input())
9 if Isstable(a):
10     print("Stable Number")
11 else:
12     print("Unstable Number")
13
```

	Input	Expected	Got	
✓	9988	Stable Number	Stable Number	✓
✓	2277	Stable Number	Stable Number	✓
✓	1233	Unstable Number	Unstable Number	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **2**

Correct

Mark 1.00 out of 1.00

Determine the factors of a number (i.e., all positive integer values that evenly divide into a number).

For example:

Input	Result
20	1 2 4 5 10 20

Answer: (penalty regime: 0 %)

```
1 a=int(input())
2 for x in range(1,a+1):
3     if a%x==0:
4         print(x, end=' ')
5
6
```

	Input	Expected	Got	
✓	20	1 2 4 5 10 20	1 2 4 5 10 20	✓
✓	5	1 5	1 5	✓
✓	13	1 13	1 13	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **3**

Correct

Mark 1.00 out of 1.00

Write a [program](#) to return the nth number in the fibonacci series.

The value of N will be passed to the [program](#) as input.

NOTE: Fibonacci series looks like –

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, . . . and so on.

i.e. Fibonacci series starts with 0 and 1, and continues generating the next number as the sum of the previous two numbers.

- first Fibonacci number is 0,
- second Fibonacci number is 1,
- third Fibonacci number is 1,
- fourth Fibonacci number is 2,
- fifth Fibonacci number is 3,
- sixth Fibonacci number is 5,
- seventh Fibonacci number is 8, and so on.

For example:

Input:

7

Output

8

For example:

Input	Result
8	13

Answer: (penalty regime: 0 %)

```
1 def fibonacci(n):
2     if n==0:
3         return 0
4     elif n==1:
5         return 0
6     elif n==2:
7         return 1
8     else:
9         return fibonacci(n-1)+fibonacci(n-2)
10
11 n=int(input())
12 print(fibonacci(n))
13
```

	Input	Expected	Got	
✓	4	2	2	✓

	Input	Expected	Got	
✓	8	13	13	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **4**

Correct

Mark 1.00 out of 1.00

Write a program that reads a positive integer, n, from the user and then displays the sum of all of the integers from 1 to n.

Sample Input

10

Sample Output

The sum of the first 10 positive integers is 55.0

For example:

Input	Result
10	The sum of the first 10 positive integers is 55.0

Answer: (penalty regime: 0 %)

```

1 a=int(input())
2 sum=0
3 for x in range(1,a+1):
4     sum+=x
5 print(f"The sum of the first {a} positive integers is {sum:.1f}")

```

	Input	Expected	Got	
✓	10	The sum of the first 10 positive integers is 55.0	The sum of the first 10 positive integers is 55.0	✓
✓	20	The sum of the first 20 positive integers is 210.0	The sum of the first 20 positive integers is 210.0	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **5**

Correct

Mark 1.00 out of 1.00

Write a [program](#) to find the count of ALL digits in a given number N. The number will be passed to the [program](#) as an input of type int. Assumption: The input number will be a positive integer number ≥ 1 and ≤ 25000 .

For e.g.

If the given number is 292, the function should return 3 because there are 3 digits in this number

If the given number is 1015, the function should return 4 because there are 4 digits in this number

For example:

InputResult

292 3

1015 4

For example:

Input	Result
293	3

Answer: (penalty regime: 0 %)

```
1 a=int(input())
2 count=0
3 while a!=0:
4     a=int(a/10)
5     count+=1
6 print(count)
```

	Input	Expected	Got	
✓	293	3	3	✓
✓	6788	4	4	✓
✓	52321	5	5	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **6**

Correct

Mark 1.00 out of 1.00

Write a program to check whether a given number is a perfect number or not.

Perfect number is a positive number which sum of all positive divisors excluding that number is equal to that number.

For example, 6 is perfect number since divisor of 6 are 1, 2 and 3.

Sum of its divisor is $1 + 2 + 3 = 6$

Sample Test Cases

Test Case 1

Input

6

Output

YES

Test Case 2

45

Output

NO

For example:

Input	Result
6	YES

Answer: (penalty regime: 0 %)

```
1 a=int(input())
2 sum=0
3 for x in range(1,a):
4     if a%x==0:
5         sum+=x
6 if(sum==a):
7     print("YES")
8 else:
9     print("NO")
10
```

	Input	Expected	Got	
✓	6	YES	YES	✓

	Input	Expected	Got	
✓	45	NO	NO	✓
✓	496	YES	YES	✓
✓	123	NO	NO	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question 7

Correct

Mark 1.00 out of 1.00

Strong Number:

Strong number is a special number whose sum of factorial of digits is equal to the original number.

For example: 145 is strong number. Since, $1! + 4! + 5! = 145$.

Write a program to find whether the given number is a Strong Number or not.

Input Format:

The Input consists of a single integer n.

Output Format:

Output consists of a single word 'Yes' or 'No'.

Sample Input 1:

145

Sample Output 1:

Yes

Answer: (penalty regime: 0 %)

```
1 b=int(input())
2 a=b
3 sum=0
4 while a!=0:
5     mul=1
6     num=int(a%10)
7     for x in range(1,num+1):
8         mul*=x
9     sum+=mul
10    a//=10
11
12 if(sum==b):
13     print("Yes")
14 else:
15     print("No")
```

	Input	Expected	Got	
✓	145	Yes	Yes	✓
✓	40585	Yes	Yes	✓
✓	4321	No	No	✓
✓	2	Yes	Yes	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **8**

Correct

Mark 1.00 out of 1.00

You are choreographing a circus show with various animals. For one act, you are given two kangaroos on a number line ready to jump in the positive direction.

- The first kangaroo starts at position x_1 and moves at a speed v_1 meters per jump.
- The second kangaroo starts at position x_2 and moves at a speed of v_2 meters per jump and $x_2 > x_1$
- You have to figure out to get both kangaroos at the same position at the same time as part of the show before k jumps. If it is possible, return YES, otherwise return NO.

Input Format:

x_1 -position of kangaroo1

v_1 -Speed of kangaroo1

x_2 -position of kangaroo2

v_2 -Speed of kangaroo2

k -jumps

Output Format:

Both kangaroos are at the same position within k jumps, YES, otherwise NO.

For example:

Input	Result
0 3 4 2 6	YES

Answer: (penalty regime: 0 %)

```
1 x1=int(input())
2 v1=int(input())
3 x2=int(input())
4 v2=int(input())
5 k=int(input())
6 flag=0
7 for i in range(k):
8     x1+=v1
9     x2+=v2
10 if x1==x2:
11     flag=1
12 if flag==1:
13     print("YES")
14 else:
15     print("NO")
16
```

	Input	Expected	Got	
✓	0 3 4 2 6	YES	YES	✓
✓	0 3 2 4 8	NO	NO	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **9**

Correct

Mark 1.00 out of 1.00

Write a program to find the sum of the series $1 + 11 + 111 + 1111 + \dots + n$ terms (n will be given as input from the user and sum will be the output)

Sample Test Cases

Test Case 1

Input

4

Output

1234

Explanation:

as input is 4, have to take 4 terms.

$1 + 11 + 111 + 1111$

Test Case 2

Input

6

Output

123456

For example:

Input	Result
3	123

Answer: (penalty regime: 0 %)

```
1 def summation(n):  
2     sum=0  
3     j=1  
4     for i in range(1,n+1):  
5         sum=sum+j  
6         j=(j*10)+1  
7     return sum  
8 a=int(input())  
9 print(summation(a))
```

	Input	Expected	Got	
✓	1	1	1	✓
✓	3	123	123	✓

	Input	Expected	Got	
✓	4	1234	1234	✓
✓	7	1234567	1234567	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **10**

Correct

Mark 1.00 out of 1.00

Write a program to find the sum of the series $1 + 11 + 111 + 1111 + \dots + n$ terms (n will be given as input from the user and sum will be the output)

Sample Test Cases

Test Case 1

Input

4

Output

1234

Explanation:

as input is 4, have to take 4 terms.

$1 + 11 + 111 + 1111$

Test Case 2

Input

6

Output

123456

For example:

Input	Result
3	123

Answer: (penalty regime: 0 %)

```
1 def summation(n):
2     sum=0
3     j=1
4     for i in range(1,n+1):
5         sum+=j
6         j=(j*10)+1
7     return sum
8
9 a=int(input())
10 print(summation(a))
11
```

	Input	Expected	Got	
✓	1	1	1	✓
✓	3	123	123	✓

	Input	Expected	Got	
✓	4	1234	1234	✓
✓	7	1234567	1234567	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.