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Started on Monday, 25 March 2024, 1:46 AM

State Finished

Completed on Monday, 25 March 2024, 9:17 PM

Time taken 19 hours 31 mins

Marks 5.00/5.00

Grade **50.00** out of 50.00 (**100%**)

Name [TAMILARASI R 2022-CSD-A](#)



Question 1

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 speed1=int(input())
3 x2=int(input())
4 speed2=int(input())
5 k=int(input())
6 value=speed1*speed2
7 if value==k:
8     print("YES")
9 else:
10    print("NO")
```

	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 2

Correct

Mark 1.00 out of 1.00

In this exercise you will create a program that computes the average of a collection of values entered by the user. The user will enter 0 as a sentinel value to indicate that no further values will be provided. Your program should display an appropriate error message if the first value entered by the user is 0.

Hint: Because the 0 marks the end of the input it should not be included in the average.

Sample Input

1
2
3
4
5
0

The average is 3.0.

Answer: (penalty regime: 0 %)

```
1 sum=0
2 c=0
3 while True:
4     num=int(input())
5     if num==0:
6         break
7     else:
8         sum+=num
9         c+=1
10 print("The average is %.1f"%(sum/c))
```

	Input	Expected	Got	
✓	1 2 3 4 5 0	The average is 3.0.	The average is 3.0.	✓
✓	11 22 33 44 55 0	The average is 33.0.	The average is 33.0.	✓



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

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

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 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 a=int(input())
2 sum=0
3 sum1=0
4 for i in range(0,a):
5     sum=sum+10**i
6     sum1+=sum
7 print(sum1)
```


	Input	Expected	Got	
✓	1	1	1	✓
✓	3	123	123	✓
✓	4	1234	1234	✓
✓	7	1234567	1234567	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question 5

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 num=int(input())
2 List=[]
3 Set=set()
4 while num!=0:
5     List.append(num%10)
6     num//=10
7 for i in List:
8     result=List.count(i)
9     Set.add(result)
10 if len(Set)==1:
11     print("Stable Number")
12 else:
13     print("Unstable Number")

```

	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.

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