Status	Finished
Started	Sunday, 6 October 2024, 4:36 PM
Completed	Sunday, 6 October 2024, 5:25 PM
Duration	49 mins 7 secs

Question **1**

Correct

Marked out of 5.00

Consider the following sequence:

1st term: 1

2nd term: 1 2 1

3rd term: 1 2 1 3 1 2 1

4th term: 1 2 1 3 1 2 1 4 1 2 1 3 1 2 1

And so on. Write a program that takes as parameter an integer n and prints the nth terms of this sequence.

Example Input:

1

Output:

1

Example Input:

4

Output:

1 2 1 3 1 2 1 4 1 2 1 3 1 2 1

For example:

Input	Result
1	1
2	1 2 1
3	1 2 1 3 1 2 1
4	1 2 1 3 1 2 1 4 1 2 1 3 1 2 1

Answer: (penalty regime: 0 %)

```
import java.util.Scanner;
public class Sample
{
    public static String print(int n)
    {
        if(n==1)
        return "1";
        else
        {
            String rec = print(n-1);
            return rec+" "+n+" "+rec;
        }

    }
    public static void main(String args[])
    {
        Scanner s = new Scanner(System.in);
        int n=s.nextInt();
        System.out.println(print(n));

    }
}
```

	Input	Expected	Got	
✓	1	1	1	✓
✓	2	1 2 1	1 2 1	✓

	Input	Expected	Got	
✓	3	1 2 1 3 1 2 1	1 2 1 3 1 2 1	✓
✓	4	1 2 1 3 1 2 1 4 1 2 1 3 1 2 1	1 2 1 3 1 2 1 4 1 2 1 3 1 2 1	✓

Passed all tests! ✓

Question **2**

Correct

Marked out of 5.00

Consider a sequence of the form 0, 1, 1, 2, 4, 7, 13, 24, 44, 81, 149...

Write a method program which takes as parameter an integer n and prints the nth term of the above sequence. The nth term will fit in an integer value.

Example Input:

5

Output:

4

Example Input:

8

Output:

24

Example Input:

11

Output:

149

For example:

Input	Result
5	4
8	24
11	149

Answer: (penalty regime: 0 %)

```
import java.util.Scanner;
public class sample
{
    public static int print(int n)
    {
        int a=0,b=1,c=1,d=2;
        if(n==1)
        {
            return 0;
        }
        else if(n==2)
        {
            return 1;
        }
        else if(n==3)
        {
            return 1;
        }
        else if(n==4)
        {
            return 2;
        }
        else
        {
        for(int i=5;i<=n;i++)
        {
            a=b;
            b=c;
            c=d;
            d=a+b+c;
        }
        return d;
        }
}
```

```
35
36 public static void main(String args[])
37 {
38     Scanner s = new Scanner(System.in);
39     int n=s.nextInt();
40     System.out.println(print(n));
41 }
42 }
```

	Input	Expected	Got	
✓	5	4	4	✓
✓	8	24	24	✓
✓	11	149	149	✓

Passed all tests! ✓

Question **3**

Correct

Marked out of 5.00

Write a program that takes as parameter an integer n.

You have to print the number of zeros at the end of the factorial of n.

For example, 3! = 6. The number of zeros are 0. 5! = 120. The number of zeros at the end are 1.

Note: n! < 10^5

Example Input:

3

Output:

0

Example Input:

60

Output:

14

Example Input:

100

Output:

24

Example Input:

1024

Output:

253

For example:

Input	Result
3	0
60	14
100	24
1024	253

Answer: (penalty regime: 0 %)

Reset answer

```java
// Java program to count trailing 0s in n!
import java.util.Scanner;
public class Fact
{
    public static void main(String[] args)
    {
    Scanner sc = new Scanner(System.in);
    int n = sc.nextInt();
    System.out.println(ctz(n));
    sc.close();
}

public static int ctz(int n)
{
    int c=0;
    for(int i=5; n/i >=1; i*=5)
    {
        c+=n/i;
    }
    return c;
}

}
```

```
24
```

	Input	Expected	Got	
✓	3	0	0	✓
✓	60	14	14	✓
✓	100	24	24	✓
✓	1024	253	253	✓

Passed all tests! ✓

◄ Lab-02-MCQ

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Lab-03-MCQ ►