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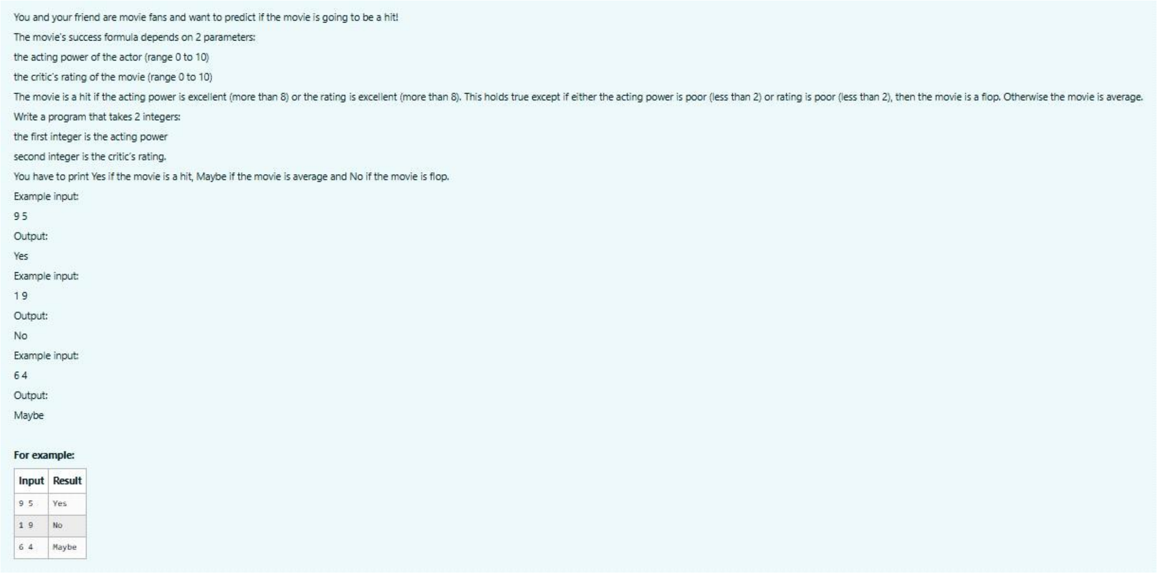
Object Oriented Programming Using Java

Week 2

1)



You and your friend are movie fans and want to predict if the movie is going to be a hit!

The movie's success formula depends on 2 parameters:

the acting power of the actor (range 0 to 10)

the critic's rating of the movie (range 0 to 10)

The movie is a hit if the acting power is excellent (more than 8) or the rating is excellent (more than 8). This holds true except if either the acting power is poor (less than 2) or rating is poor (less than 2), then the movie is a flop. Otherwise the movie is average.

Write a program that takes 2 integers:

the first integer is the acting power

second integer is the critic's rating.

You have to print Yes if the movie is a hit, Maybe if the movie is average and No if the movie is flop.

Example input:

9 5

Output:

Yes

Example input:

1 9

Output:

No

Example input:

6 4

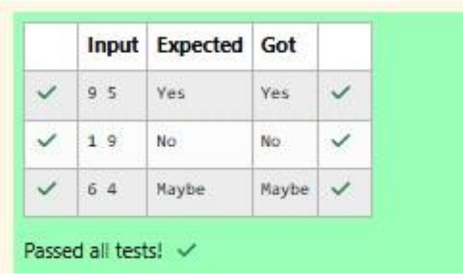
Output:

Maybe

For example:

Input	Result
9 5	Yes
1 9	No
6 4	Maybe

```
import java.util.Scanner;


class   prog{             public   static   void
main(String []args){        Scanner sc=new
Scanner(System.in);     int a=sc.nextInt();
int r=sc.nextInt();      if(a>8 && r>2||a>2
&& r>8){
         System.out.println("Yes");
      }
      else if(a<=2 || r<=2){
         System.out.println("No");
      }
else{
System.ou
t.println("
Maybe");

        }


    }
```

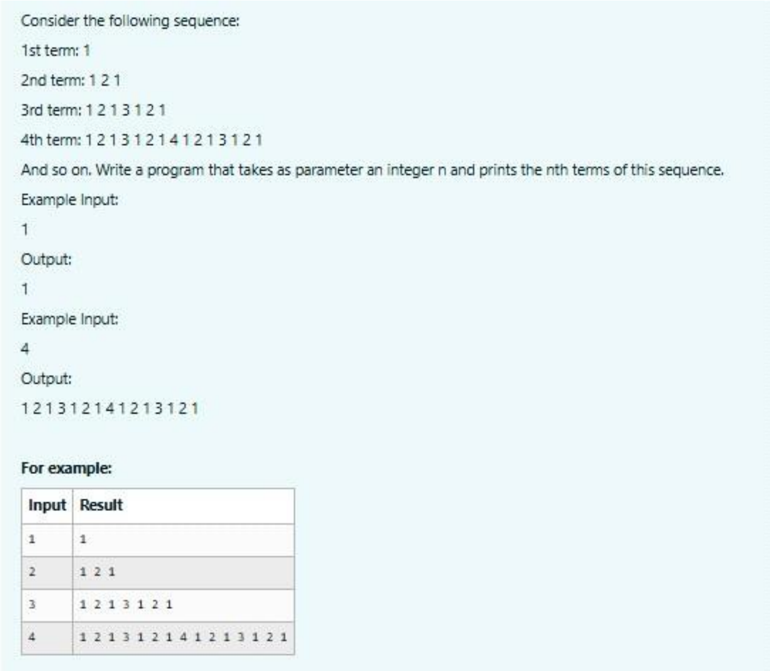


	Input	Expected	Got	
✓	9 5	Yes	Yes	✓
✓	1 9	No	No	✓
✓	6 4	Maybe	Maybe	✓

Passed all tests! ✓

```
    }
```

2)



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

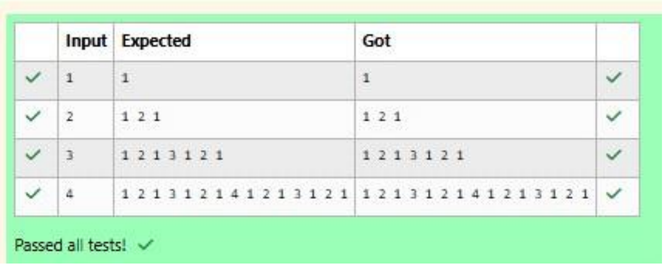
Output:

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

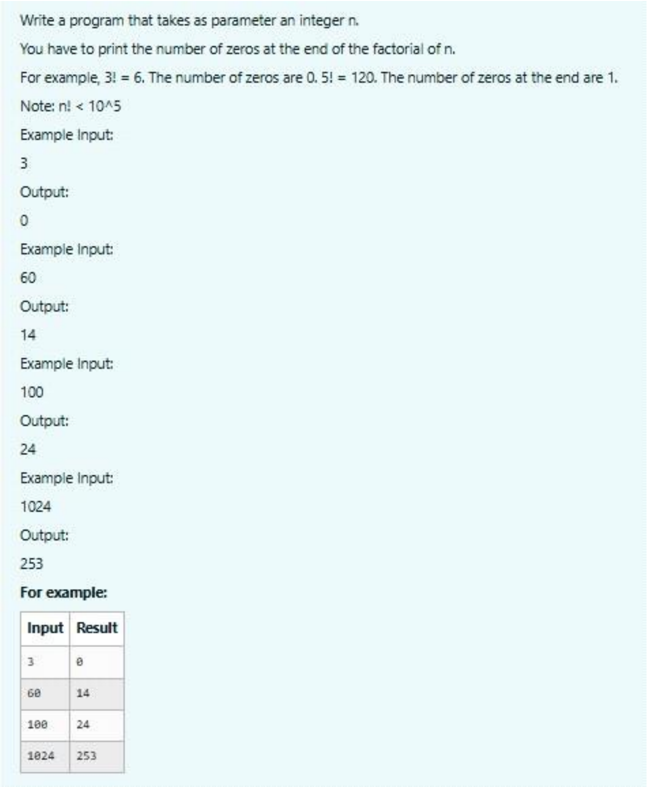
```
import java.util.Scanner;


public class prog {     public static String
generateSequence(int n) {
        if (n == 1) {
return "1";
        }
        String previousTerm = generateSequence(n - 1);
return previousTerm + " " + n + " " + previousTerm;
    }


    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);


        int n = scanner.nextInt();
        String result = generateSequence(n);
System.out.println(result);        scanner.close();
    }
}
```



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

3)



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:

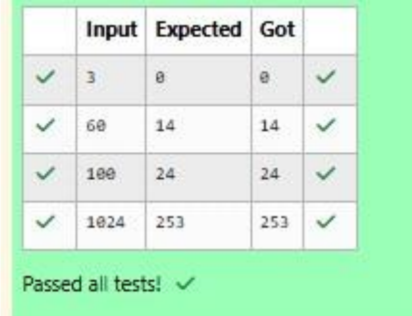
253

For example:

Input	Result
3	0
60	14
100	24
1024	253

```
import java.util.Scanner;


class prog {
   // Function to return trailing 0s in factorial of n
static int findTrailingZeros(int n) {         if (n < 0) //
Negative Number Edge Case
          return -1;


      // Initialize result
int count = 0;


      // Keep dividing n by powers of 5 and update count
      for (int i = 5; n / i >= 1; i *= 5)
count += n / i;


      return count;
```

```
  }

  // Driver Code     public static void
main(String[] args) {
    Scanner sc = new Scanner(System.in);

    // Taking input

    int n = sc.nextInt();

    // Output the number of trailing zeros in n!
    System.out.println(findTrailingZeros(n));
  }
}
```



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

Passed all tests! ✓