Status	Finished
Started	Sunday, 6 October 2024, 12:22 PM
Completed	Sunday, 6 October 2024, 6:56 PM
Duration	6 hours 34 mins

Question **1**

Correct

Marked out of 5.00

You have recently seen a motivational sports movie and want to start exercising regularly. Your coach tells you that it is important to get up early in the morning to exercise. She sets up a schedule for you:

On weekdays (Monday - Friday), you have to get up at 5:00. On weekends (Saturday & Sunday), you can wake up at 6:00. However, if you are on vacation, then you can get up at 7:00 on weekdays and 9:00 on weekends.

Write a program to print the time you should get up.

Input Format

Input containing an integer and a boolean value.

The integer tells you the day it is (1-Sunday, 2-Monday, 3-Tuesday, 4-Wednesday, 5-Thursday, 6-Friday, 7-Saturday). The boolean is true if you are on vacation and false if you're not on vacation.

You have to print the time you should get up.

Example Input:

1 false

Output:

6:00

Example Input:

5 false

Output:

5:00

Example Input:

1 true

Output:

9:00

For example:

Input	Result
1 false	6:00
5 false	5:00
1 true	9:00

Answer: (penalty regime: 0 %)

```
1
2
3  import java.util.Scanner;
4
5  public class WakeUpTime {
6
7      public static void main(String[] args) {
8          Scanner scanner = new Scanner(System.in);
9
10
11         int day = scanner.nextInt();
12
13
14         boolean vacation = scanner.nextBoolean();
15
16         String wakeUpTime = getWakeUpTime(day, vacation);
17         System.out.println(wakeUpTime);
18
19         scanner.close();
20     }
21
22     public static String getWakeUpTime(int day, boolean vacation) {
23         String time;
```

```
24
25          if (vacation) { // Sunday or Saturday
26              if (day ==1 || day==7) {
27                  time = "9:00";
28              } else {
29                  time = "7:00";
30              }
31          } else { // Weekdays (Monday to Friday)
32              if (day ==1 || day==7) {
33                  time = "6:00"; // Sleep in on vacation
34              } else {
35                  time = "5:00";
36              }
37          }
38
39          return time;
40      }
41  }
```

	Input	Expected	Got	
✓	1 false	6:00	6:00	✓
✓	5 false	5:00	5:00	✓
✓	1 true	9:00	9:00	✓

Passed all tests! ✓

Question **2**

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
import java.util.Scanner;

public class FactorialTrailingZeros {

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

        int n = scanner.nextInt(); // Fixed the initialization of n
        System.out.println(countTrailingZeros(n));

        scanner.close();
    }

    public static int countTrailingZeros(int n) {
        int count = 0;

        // Count the number of times 5 is a factor in the numbers 1 to n
        for (int i = 5; n / i >= 1; i *= 5) {
            count += n / i;
        }

        return count; // Return the count of trailing zeros
    }
```

```
}
```

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

Passed all tests! ✓

Question **3**

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 SequenceGenerator {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        int n = scanner.nextInt();
        String term = generateTerm(n);
        System.out.print(term);
        scanner.close();
    }

    private static String generateTerm(int n) {
        if (n == 1) {
            return "1";
        }


        String prevTerm = generateTerm(n - 1);

        StringBuilder currentTerm = new StringBuilder();


        currentTerm.append(prevTerm);
        currentTerm.append(" ");
        currentTerm.append(n);
        currentTerm.append(" ");
        currentTerm.append(prevTerm);

        return currentTerm.toString();
    }
}
```

	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! ✓

◄ Lab-02-MCQ

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Lab-03-MCQ ►