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|------------------|-------------------------------------|
| Status | Finished |
| Started | Monday, 30 September 2024, 10:07 PM |
| Completed | Monday, 30 September 2024, 11:14 PM |
| Duration | 1 hour 6 mins |

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 %)

```

1 import java.util.Scanner;
2 public class SimpleSequenceGenerator {
3     public static String generateSequence(int n) {
4         String sequence = "1";
5         for (int i = 2; i <= n; i++) {
6             sequence = sequence + " " + i + " " + sequence;
7         }
8         return sequence;
9     }
10    public static void main(String[] args) {
11        Scanner sc = new Scanner(System.in);
12        System.out.print("");
13        int n = sc.nextInt();
14        String sequence = generateSequence(n);
15        System.out.println(sequence);
16        sc.close();
17    }
18 }
19 
```

| | 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 | ✓ |

| | Input | Expected | Got | |
|---|-------|-------------------------------|-------------------------------|---|
| ✓ | 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

Write a Java program to input a number from user and print it into words using for loop. How to display number in words using loop in Java programming.

Logic to print number in words in Java programming.

Example**Input**

1234

Output

One Two Three Four

Input:

16

Output:

one six

For example:

| Test | Input | Result |
|------|-------|-------------|
| 1 | 45 | Four Five |
| 2 | 13 | One Three |
| 3 | 87 | Eight Seven |

Answer: (penalty regime: 0 %)

```

1 import java.util.Scanner;
2
3 public class NumberToWords {
4     private static final String[] units = {"", "One", "Two", "Three", "Four", "Five", "Six", "Seven", "Eight", "Nine"};
5     private static final String[] teens = {"One", "Two", "Three", "Four", "Five", "Six", "Seven", "Eight", "Nine"};
6     private static final String[] tens = {"", "Ten", "Twenty", "Thirty", "Forty", "Fifty", "Sixty", "Seventy", "Eighty", "Ninety"};
7
8     public static void main(String[] args) {
9         Scanner scanner = new Scanner(System.in);
10        System.out.print("");
11        int number = scanner.nextInt();
12        printNumberInWords(number);
13    }
14
15    public static void printNumberInWords(int number) {
16        String words = "";
17        while (number > 0) {
18            int digit = number % 10;
19            number /= 10;
20            if (number > 0) {
21                if (digit == 1) {
22                    words = getTeens(number % 10) + " " + words;
23                    number /= 10;
24                } else {
25                    words = getTens(digit) + " " + words;
26                }
27            } else {
28                words = getUnits(digit) + " " + words;
29            }
30        }
31        System.out.println(words.trim());
32    }
33
34    private static String getUnits(int digit) {
35        return units[digit];
36    }
37
38    private static String getTeens(int digit) {
39        return teens[digit];
40    }
41
42    private static String getTens(int digit) {

```

```
43 |         return tens[digit];
44 |     }
45 | }
```

| | Test | Input | Expected | Got | |
|---|------|-------|-------------|-------------|---|
| ✓ | 1 | 45 | Four Five | Four Five | ✓ |
| ✓ | 2 | 13 | One Three | One Three | ✓ |
| ✓ | 3 | 87 | Eight Seven | Eight Seven | ✓ |

Passed all tests! ✓



Question 3

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 %)

```

1 import java.util.Scanner;
2
3 public class CustomSequence {
4
5     public static int findNthTerm(int n) {
6         if (n == 0) return 0;
7         if (n == 1 || n == 2) return 1;
8
9         int a = 0, b = 1, c = 1, nthTerm = 0;
10
11         for (int i = 4; i <= n; i++) {
12             nthTerm = a + b + c;
13             a = b;
14             b = c;
15             c = nthTerm;
16         }
17
18         return nthTerm;
19     }
20
21     public static void main(String[] args) {
22         Scanner sc = new Scanner(System.in);
23         System.out.print("");
24         int n = sc.nextInt();
25
26         System.out.println(findNthTerm(n));
27         sc.close();
28     }
29 }
30

```

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

Passed all tests! ✓

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