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< waysToClimb

Main Page → Problems → Solve a Problem

subsets >

O BJP4 Exercise 12.19: countBinary



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Language/Type:

Java recursion recursive backtracking

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Write a method countBinary that accepts an integer n as a parameter and that prints all binary numbers that have n digits in ascending order, printing each value on a separate line. All n digits should be shown for all numbers, including leading zeros if necessary. You may assume that n is non-negative. If n is 0, a blank line of output should be produced. Do not use a loop in your solution; implement it recursively.

Call	Output
countDinamu/1).	0
	1
countDinany/21.	00
	01
	10
	11
countBinony/2).	000
	001
	010
	011
	100
	101
	110
	111

Hint: It may help to define a private helper method that accepts different parameters than the original method. In particular, consider building up a set of characters as a String for eventual printing.

1 of 4 10/19/2018, 8:16 AM

```
Type your solution here:
 1 public void countBinary(int x) {
        String num = "";
 3
        countBinary(x, num);
 4 }
 5
 6 public void countBinary(int x, String num) {
 7
        if(x==0) {
 8
            System.out.println(num);
 9
            return;
10
        }
11
12
        countBinary(x-1, num+"0");
        countBinary(x-1, num+"1");
13
This is a method problem. Write a Java method as described. Do not write a complete
                                                                            Indent
```

program or class; just the method(s) above.





Highlighting

You passed 6 of 6 tests.

Go to the next problem: subsets

```
test #1:
                 countBinary(1);
console output:
                 0
         result:
                 pass
        test #2:
                 countBinary(2);
console output:
                 00
                 01
                 10
                 11
                 pass
         result:
        test #3:
                 countBinary(3);
console output:
                 000
                 001
                 010
                 011
                 100
                 101
                 110
                 111
```

2 of 4 10/19/2018, 8:16 AM

```
result:
                 pass
                 countBinary(5);
        test #4:
console output:
                 00000
                 00001
                 00010
                 00011
                 00100
                 00101
                 00110
                 00111
                 01000
                 01001
                 01010
                 01011
                 01100
                 01101
                 01110
                 01111
                 10000
                 10001
                 10010
                 10011
                 10100
                 10101
                 10110
                 10111
                 11000
                 11001
                 11010
                 11011
                 11100
                 11101
                 11110
                 11111
                 pass
         result:
                 countBinary(4);
        test #5:
console output:
                 0000
                 0001
                 0010
                 0011
                 0100
                 0101
                 0110
                 0111
                 1000
                 1001
                 1010
                 1011
                 1100
                 1101
                 1110
```

3 of 4 10/19/2018, 8:16 AM

1111

result: **⊘** pass

test #6: countBinary(0);

console output:

result: **⊘** pass

If you do not understand how to solve a problem or why your solution doesn't work, please contact your TA or instructor.

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4 of 4 10/19/2018, 8:16 AM