

j728jx 🆴

< digitMatch

Main Page → Problems → Solve a Problem

isReverse >

O BJP4 Exercise 12.11: repeat ☆ Favorite

Show Header

Language/Type: 

Java <u>recursion</u> <u>recursive programming</u>

Author: Robert Baxter (on 2016/09/08)

Write a recursive method repeat that accepts a string s and an integer n as parameters and that returns a String consisting of n copies of s. For example:

Call	Value Returned
repeat("hello", 3)	"hellohello"
repeat("this is fun", 1)	"this is fun"
repeat("wow", 0)	11 11
repeat("hi ho! ", 5)	"hi ho! hi ho! hi ho! hi ho! "

You should solve this problem by concatenating String objects using the + operator. String concatenation is an expensive operation, so it is best to minimize the number of concatenation operations you perform. For example, for the call repeat("foo", 500), it would be inefficient to perform 500 different concatenation operations to obtain the result. Most of the credit will be awarded on the correctness of your solution independent of efficiency. The remaining credit will be awarded based on your ability to minimize the number of concatenation operations performed.

Your method should throw an IllegalArgumentException if passed any negative value for *n*. You are not allowed to construct any structured objects other than Strings (no array, List, Scanner, etc.) and you may not use any loops to solve this problem; you must use recursion.

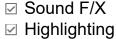
1 of 3 10/17/2018, 1:10 PM

## Type your solution here: 1 //Name: Jason Xu 2 public String repeat(String s, int n){ 3 **if**(n==0){ 4 return ""; 5 **if**(n==1){ 6 7 return s; 8 9 **if**(n<0){ 10 throw new IllegalArgumentException(); 11 12 return s+repeat(s,n-1); 13

This is a **method problem.** Write a Java method as described. Do not write a complete program or class; just the method(s) above.







## 

Go to the next problem: isReverse

```
test #1:
               repeat("hello", 3)
                "hellohellohello"
        return:
        result:
                pass
                repeat("this is fun", 1)
       test #2:
        return:
                "this is fun"
        result:
                pass
       test #3:
                repeat("wow", 0)
        return:
        result:
                pass
       test #4:
                repeat("hi ho! ", 5)
                "hi ho! hi ho! hi ho! hi ho! "
        return:
        result:
                pass
                repeat("ERROR", -1)
       test #5:
exp. exception:
                IllegalArgumentException
your exception:
                IllegalArgumentException on line 10
   stack trace:
                IllegalArgumentException
                  repeat, line 10
```

2 of 3 10/17/2018, 1:10 PM

result: opass

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

If something seems wrong with the site (errors, slow performance, incorrect problems/tests, etc.), please contact us.

Is there a problem? Contact a site administrator.

Site name, logo, iconography, site design, web application and problems are original work and copyright © Marty Stepp unless otherwise specified. This site is the independent creation and intellectual property of the author and has no direct affiliation or association with any particular company, university, course, textbook, or any other material or online resource. Any non-educational usage of the content on this site is expressly forbidden without written permission. All rights reserved.

3 of 3