

Students:

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20.2 Program 1b: Digits

Objectives

- Demonstrate use of methods and writing a test driver.

Assignment

Write a program called **Digits** that has the following NON-STATIC methods:

int firstDigit(int n) which returns the first digit of the argument **n**

int lastDigit(int n) which returns the last digit of the argument **n**

int digits(int n) which returns the number of digits of the argument.

For example, **firstDigit(1729)** is 1, **lastDigit(1729)** is 9, and **digits(1729)** is 4.

You will need a program to test your methods. This should be a separate program file, called something like **DigitTester.java**. Use this program to create a new instance of **Digits**, and then call the methods with various values to ensure the program works correctly.

Do not turn in the tester program. Only upload **Digits.java**. Select Submit for Grading. You can submit as many times as necessary to obtain all points possible.

Here is a sample test program to get you started. This file should be in the same folder as **Digits.java**

```
public class DigitsTester {
    public static void main(String[] args) {

        Digits d = new Digits();
        int first = d.firstDigit(1729);

        if (first == 1) {
            System.out.println("firstDigit(1729) correctly returned " +
first );
        } else {
            System.out.println("firstDigit(1729) incorrectly returned "
+ first );
        }

        // More tests here....
    }
}
```

```
}  
}
```

**LAB
ACTIVITY**

20.2.1: Program 1b: Digits

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Submission Instructions

Compile command

```
javac Digits.java -Xlint:all -  
encoding utf-8
```

We will use this command to compile your code

Upload your files below by dragging and dropping into the area or choosing a file on your hard drive.

Digits.java

Drag file here
or

[Choose on hard drive.](#)[Submit for grading](#)

Latest submission - 6:20 PM on
09/08/19

Submission passed
all tests



Total score: 15
/ 15

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1: Unit test ^

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Test firstDigit(1729) returns 1.

Test feedback

```
firstDigit(1729) correctly returned 1
```

2: Unit test ^

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Test lastDigit(1729) returns 9.

Test feedback

```
lastDigit(1729) correctly returned 9
```

3: Unit test ^

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Test digits(1729) returns 4.

Test feedback

```
digits(1729) correctly returned 4
```

4: Unit test ^

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Test input 0: firstDigit, lastDigit, digits, return 0, 0, and 1, respectively.

Test feedback

```
firstDigit(0) correctly returned 0  
lastDigit(0) correctly returned 0  
digits(0) correctly returned 1
```

5: Unit test ^

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Test input -398273111: firstDigit, lastDigit, digits, return 3, 1, and 9, respectively.

Test feedback

```
firstDigit(-398273111) correctly returned 3  
lastDigit(-398273111) correctly returned 1  
digits(-398273111) correctly returned 9
```

Previous submissions

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