

CS 1101 Lab 7 - Objects and Recursion

Released on: **Monday, November 12th**

Due on: **Sunday November 18th, 11:59pm**

How: submit zip file to Google classroom

What: A zip file named after you (LastNameFirstName-lab07.zip) containing 2 Java files.

Lab Description

Objective 1

Create a class named Binary. In this method, create 3 static methods:

- integerToBinaryString, accepts an int and returns a String as the binary representation
 - Ex: Binary.integerToBinaryString(6); // returns "110"
- binaryStringToInteger
 - Ex: Binary.binaryStringToInteger("111"); // returns 7
 - this method should throw an IllegalArgumentException if it's given a string that contains anything other than 1s and 0s
- printAllBinaryStrings, accepts an int x, should be of value 1 to 10, prints all binary strings of length x.
 - must be a recursive function
 - this method should throw an IllegalArgumentException if it's given a number outside of 1 to 10
 - Ex: Binary.printAllBinaryStrings(3); // prints 000 , 001 , 010 , 100 , 101

Objective 2

Main method that calls the above methods to validate they work, and has at least 3 unit test methods for integerToBinaryString and 3 unit test methods for binaryStringToInteger.

What do you have to turn in?

2 Java files, **MyJavaLab07.java**, and **Binary.java** inside a zip folder named LastNameFirstName-lab07.zip

Criteria for grading:

- [10 pts] Your lab is submitted according to specifications (proper name of file, proper format)
- [10 pts] Well commented code explaining what you are doing (clear and grammatically correct)
- [45 pts] Objective 1
- [35 pts] Objective 2