

Part 1

This assignment is to write the code from the lesson to use a `StorageResource` to store the genes you find instead of printing them out. This will help you see if you really understood how to put the code together, and might identify a part that you did not fully understand. If you get stuck, then you can go back and watch the coding videos that go with this lesson again.

Specifically, you should do the following:

1. Create a new Java project named `StringsThirdAssignments`. You can put all the classes for this programming exercise in this project.
2. Create a new Java Class named `Part1`. Copy and paste the code from your `Part1` class in your `StringsSecondAssignments` project into this class.
3. Make a copy of the `printAllGenes` method called `getAllGenes`. Instead of printing the genes found, this method should create and return a `StorageResource` containing the genes found. Remember to import the `edu.duke` libraries otherwise you will get an error message cannot find the class `StorageResource`.
4. Make sure you test your `getAllGenes` method.

Part 2

Write the method `cgRatio` that has one `String` parameter `dna`, and returns the ratio of C's and G's in `dna` as a fraction of the entire strand of DNA. For example if the `String` were `"ATGCCATAG,"` then `cgRatio` would return `4/9` or `.4444444`.

Hint: `9/2` uses integer division because you are dividing an integer by an integer and thus Java thinks you want the result to be an integer. If you want the result to be a decimal number, then make sure you convert one of the integers to a decimal number by changing it to a float. For example, (float) `9/2` is interpreted by Java as `9.0/2` and if one of the numbers is a decimal, then Java assumes you want the result to be a decimal number. Thus (float) `9/2` is `4.5`.

Write a method `countCTG` that has one `String` parameter `dna`, and returns the number of times the codon `CTG` appears in `dna`.

Part 3