

Program 4f  
COP-2250 - Java Programming  
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- Turn in the signed source code on paper, and email me the source code.
- Make sure the program is properly documented and aligned uniformly, looking professionally, I will take points off if it is not.
- Include the following header in every program:

```
/******  
Author      : Your Name  
Course      : COP 2250  
Professor   : Michael Robinson  
Program #   : Program Purpose/Description  
             {A brief description of the program }  
Due Date    : MM/DD/YYYY
```

Certification:

I hereby certify that this work is my own and none of it is the work of any other person.  
.....{ your signature }.....

```
*****/
```

Purpose of this program:

- Implement external classes with constructors and text files

\*\*\*\* NOTE \*\*\*\*

- Each task must be done inside its own function/method.
- Use main ONLY to create variables and call the functions/methods.

1 - Worth 5 points (External class and constructors)

- Create an external class called : your last name + First name initial + names.

this class should have:

- several private variables
- one constructor that will accept your first name
- one constructor that will accept your last name
  
- one mutator (set) method that will accept your first name
- one mutator (set) method that will accept your last name
  
- one accessor (get) method that will return your first name
- one accessor (get) method that will return your last name
  
- one method that will return your first and last name backwards
  
- Create a main program called : your last name + First name initial + pgm4.  
At the main(String arg[]) method in main program:
  - Call a method that will:
    - call the constructor that will accept your first name
    - call the constructor that will accept your last name
    - print your first name, space and last name getting it from the external class
    - print your first and last name backwards using the corresponding method in the external class
  
  - Calling the external class send your best friend's first and last name to it.
  - print the first name, space and last name getting it from the external class
  - print the first and last name backwards using the corresponding method in the external class

2 - Worth 5 points

- Download the file following DNA file from:  
<http://users.cis.fiu.edu/~mrobi002/downloads/samples/1200.dna>
- Open the 1200.dna file.
- Load it into a one dimension array, an ArrayList or a String, your choice.

This file contains nucleotides/bases/letters in it such as a, c, g, and t, others.

- Find out the total amount of EACH nucleotide. e.i. how many a, how many c, how many g, how many t, and how many ALL OTHERS are in this file.  
Make sure to test for upper and lower cases of each character.
- Print the first and the last nucleotide in the file.
- Using the `ceil()` method print the base exactly in the middle of the file.
- Print all totals in an aligned column

Note: you need to turn in two programs, your class and the program that uses such class.