

## Lab 4 - Final project

### OVERVIEW

To round out our semester, our final lab will be a more relaxed, self-paced project that uses all of the topics we've learned so far!

You can choose to complete problems from one of:

1. Project Euler – mathematical problems: <https://projecteuler.net/archives>
2. Project Rosalind – bioinformatics problems: <http://rosalind.info/problems/tree-view/>

Explore a little bit of each website to get a feeling for the types of problems available. **No matter which website you choose, you should begin with Problem 1 and work your way up.**

If you chose to make a free account, both Project Euler and Project Rosalind allow you to check your answer. Project Rosalind also allows you to see user-submitted solutions (once you have submitted a working solution). Feel free to learn from other submissions! Sometimes people come up with really creative solutions 😊

**Project Euler**.net

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### Problems Archives

The problems archives table shows problems 1 to 727. If you would like to tackle the 10 most recently published problems then go to Recent problems.  
Click the description/title of the problem to view details and submit your answer.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Go to Problem:

ID	Description / Title	Solved By
1	Multiples of 3 and 5	965408
2	Even Fibonacci numbers	768727
3	Largest prime factor	551395
4	Largest palindrome product	487203
5	Smallest multiple	490729
6	Sum square difference	493783
7	10001st prime	422072
8	Largest product in a series	352761
9	Special Pythagorean triplet	358150
10	Summation of primes	327813
11	Largest product in a grid	234340

Start  
here

**ROSALIND** About Problems Statistics Glossary search Log in Register

### Problems

Rosalind is a platform for learning bioinformatics and programming through problem solving. [Take a tour](#) to get the

Bioinformatics Stronghold List Tree

Start here

This is the findORFs method we've implemented!

## GRADING

### Journal (50 pts)

- 7 entries:
  - Each day's homework assignment on Canvas will specify the minimum number of minutes to spend on the final project per work session.
- Each entry should contain:
  - Date, start time to end time, total time (ex: Dec 6<sup>th</sup> 4:05-5:15pm (75 minutes) – you can use your local time)
  - Summary of progress made
    - Description of roadblocks, successes
    - List of features/functions added (if applicable)
  - Minimum 5 sentences per entry

### Submitted code (25 pts):

- Should be thoroughly commented
- Uploaded to a GitHub repository at the end of each work session (MUST HAVE 6 separate uploads)
- Graded purely on demonstrated effort and commenting, not how many lines of code or sophistication of code or number of functions (this should be fun, not stressful!)

### Group check-ins (25 pts):

- Must participate in in-class group discussion about project progress. Should help others with their roadblocks, seek help, and/or share any cool information learned

## TO SUBMIT

Please upload **(1)** a URL linking to your GitHub repo AND **(2)** a PDF of your journal with 6 entries by **WEDNESDAY JANUARY 20 @ 10 PM**. Any extensions must be requested by Friday, January 15 @ 10 PM.