Biocomputing
Fall 2017

Programming Project

Submission deadline: **November 10th, 2017**

Guidelines

- For this project, you will be working in groups of 2-3 students.
- Each group member is responsible to learn and work with the team, and the grading will be assessed for the whole group as one.

Using Perl, write a simulator to reconstruct Thomas Morgan's experiments with fruit flies (http://www.dnaftb.org/10/index.html). In particular, your simulator must be designed to track the proportions of genetic traits i.e., the corresponding geno- and pheno- types of several hundred generations. First, limit your experiments to the single red eye/white eye trait. Then add at least one additional trait (say wing-size) on the X chromosome and determine how the trait is inherited through multiple generations. What differences do you observe if the gene is located on the Y chromosome? Remember, only Male-Female combinations can produce offsprings. Mating is random, i.e., flies do not have lifelong partnerships. Also, inheritance of a trait may be controlled by a random function.

You must clearly state all assumptions you made!

Submission

The problem will have the following deliverables: Project Description and Program Files
List all group members' names in the project description.

Project Description

The project description will introduce the problem and outline your methodology of the solution. This document will be the basis of your implementation. The project description will also include analysis of results arising out of your solution.

Program Files

All files: source code, sample output & README; document your files well

Have Fun ! ☺