

Assignment 3: Drift Computational Genomics

Objectives: Become familiar with using simulations to understand the effects of parameter selection.

Tasks:

1. Accept the assignment at <https://classroom.github.com/a/IC7iaxt>
2. Update `src/af.py` to consider fitness values for each allele where zero is neutral fitness, less than zero is deleterious, and greater than zero is advantageous.
 - a. The number of fitness values you take should match the number allele specified (HINT: use `nargs='+'` in `parser.add_argument` to take an array of values, then make sure the two match)
 - b. Pass the all the way to `mate()` where you then adjust the expected number of offspring based on an additive model (fancy way of saying, just take the sum of fitness values)
3. Expand the simulation from a plot of a single run to the collect that stats after many runs (HINT: at the end of each run take the last allele frequency as the representative value)
4. Design a new experiment to understand the different effects of drift and selection.
5. Update `README.md` and `doc/drift.tex` (or similar) to include your new experiment.
6. Push your final code to GitHub.
7. Submit your final PDF to Canvas.