BIOL 01104, Spring 2019
Evolutionary Forces Simulation Lab
Instructor: Dr. Spielman

Your name: _____

Part 1 Table

Q.	Allele A frequency	AA fitness	Aa fitness	aa fitness	Prediction?	Result?	Result Generation	Final fitness	Final heterozygosity
1	0.5	1	0.9	0.8					
2	0.5	1	0.6	0.2					
3	0.2	1	0.9	0.8					
4	0.5	0.7	1.0	0.7					
5	0.2	0.7	1.0	0.7					
6	0.8	0.7	1.0	0.7					
7	0.5	1.0	0.7	1.0					
8	0.2	1.0	0.7	1.0					
9	0.8	1.0	0.7	1.0					

Part 2 Table

Q.	a→ A mutation rate	A → a mutation rate	Prediction?	Result?	Result Generation	Final fitness	Final heterozygosity
1	0.1	0					
2	0	0.1					
3	0.1	0.1					

Part 3 Table

All simulations use allele A frequency =0.5, and all fitness = 1.0

Q.	N	# "A" alleles fixed	Range of generations for "A" fixation	# "a" alleles fixed	Range of generations for "a" fixation	Range of final heterozygosity
1	10					
2	100					
3	1000					
4	10000					
5	100000					

Part 4 Table

All simulations use allele A frequency = 0.5

Q.	N	AA fitness	Aa fitness	aa fitness	# A alleles fixed	Range of generations for "A" fixation	# a alleles fixed	Range of generations for "a" fixation	Range of final fitness	Range of final heterozygosity
1	100	1	0.6	0.2						
2	100	1	0.9	0.8						
3	10	1	0.9	0.8						

Part 5 Table

*All simulations use **island** allele A frequency = 0.5 and **continent** allele A frequency = 0.8*

Q.	AA fitness	Aa fitness	aa fitness	Migration rate	Prediction?	Result?	Result Generation	Final fitness	Final heterozygosity
1	1	1	1	0.1					
2	1	1	1	0.3					
3	1	0.8	0.6	0.1					
4	0.6	0.8	1	0.1					