**Development:**

Landscape is a Java program which simulates the development of a predator and a prey population over time. Tools used in development were version control with git and github, testing with Junit, debugging with Eclipse, Javadoc comments and documentation, and Ant and Maven build files, all of which were integrated with the project via the Eclipse development environment.

**Running the Program:**

The program can be built, run, and tested with Ant or Maven. Work in in the same directory as pom.xml for Maven or build.xml for Ant.

Using Maven:

compilation and build command is : mvn package (all the compiled files and excutable jar go into the folder target)

execution command : java -classpath target/landscape-0.01.jar start.Simulation small.dat ( small.dat is the landscape file which could be the file created by users)

the output pictures are located in the output folder

test command : mvn test –Dtest=TestModel

( -Dtest=[the java test file], which can be ignored)

The output report is located at ./target/surefire-reports/

Using Ant:

Compilation and build command is : ant compile / ant jar ( which can be found in build.xml )

The compiled class files are located in ./build/class jar file : ./build/lib

Execution command :　 java -classpath target/landscape-0.01.jar start.Simulation small.dat

test command : ant test (the test report file is located in build/test/html )

**Unit test result :**

Running landscape.TestHarePopulation

Tests run: 17, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.044 sec

Running landscape.TestInput

Tests run: 2, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.093 sec

Running landscape.TestLandscape

Tests run: 10, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.017 sec

Running landscape.TestModel

Tests run: 2, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.033 sec

Results :

Tests run: 31, Failures: 0, Errors: 0, Skipped: 0