Project Report

GameOfCatz.java

# Data Structures and Algorithms Semester 2

# User Guide

Compile the whole program using java compiler.

The main class is contained in gameofcatz.java.

The program has 3 separate run modes.

- Help mode: (Displays help information)

*:~/$ gameofcatz*

- Interactive mode (Opens menu and allows user to enter information directly)

*:~/$ gameofcatz -i*

- Simulation mode (Loads a given file; runs a simulation and then exports to the given savefile name)

*:~/$ gameofcatz -s infile.txt savefile.txt*

**Description of Classes**

**gameofcatz.java**

This classes is entire purpose is to handle the provided user command line parameters and choose which operation to boot into, it also serves as a last line of error handling by being the only place where a general exception is caught (all others try to get catch a specific exception usually thrown on purpose by my classes.)

**UserInterface.java**

The menu system of the whole program, has a main menu as well as sub menu methods for the Edge and Vertex operations. This class also contains methods for handling user input such as checking for integers and strings the reason it was designed this way was to avoid code repetition and improve readability, as the user is asked to input commands several times.

**FileReader.java**

This class is responsible for file input and output handling. This is the only class to make static. As you would never need to instantiate more than one file reader at a time and probably would not want to due to memory concerns.

**DSALinkedList.java**

*This class was originally created by Caio Marteli(me) for Practical 4 in Data Structures and algorithms Sem2/2021*

*It was further adapted and improved upon by myself for utilisation on this project.*

*Marteli, C (2021) DSAPrac4 source code (Version 2.0) [Source code]. https://github.com/cMarteli/DSA*

**DSAListNode**

*This class was originally created by Caio Marteli(me) for Practical 4 in Data Structures and algorithms Sem2/2021*

*It was further adapted and improved upon by myself for utilisation on this project.*

*Marteli, C (2021) DSAPrac4 source code (Version 2.0) [Source code]. https://github.com/cMarteli/DSA*

**DSAGraph.java**

*This class was originally created by Caio Marteli(me) for Practical 6 in Data Structures and algorithms Sem2/2021*

*It was further adapted and improved upon by myself for utilisation on this project.*

*Marteli, C (2021) DSAPrac4 source code (Version 2.0) [Source code]. https://github.com/cMarteli/DSA*

**DSAGraphVertex**

*This class was originally created by Caio Marteli(me) for Practical 6 in Data Structures and algorithms Sem2/2021*

*It was further adapted and improved upon by myself for utilisation on this project.*

*Marteli, C (2021) DSAPrac4 source code (Version 2.0) [Source code]. https://github.com/cMarteli/DSA*

**DSAQueue.java**

*This class was originally created by Caio Marteli(me) for Practical 3 in Data Structures and algorithms Sem2/2021*

*It was further adapted and improved upon by myself for utilisation on this project.*

*Marteli, C (2021) DSAPrac4 source code (Version 2.0) [Source code]. https://github.com/cMarteli/DSA*

**DSAStack.java**

This class was originally created by Caio Marteli(me) for Practical 3 in Data Structures and algorithms Sem2/2021

It was further adapted and improved upon by myself for utilisation on this project.

*Marteli, C (2021) DSAPrac4 source code (Version 2.0) [Source code]. https://github.com/cMarteli/DSA*

**UnitTestHarness.java**

This class was originally created by Caio Marteli(me) for Practical 2 in Data Structures and algorithms Sem2/2021

It was further adapted and improved upon by myself for utilisation on this project.

*Marteli, C (2021) DSAPrac4 source code (Version 2.0) [Source code]. https://github.com/cMarteli/DSA*