**Scenario Week 4: Team Sloth Implementation Report**

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**Languages (and libraries) used for implementation**

Our team has prior experience to several languages, including C, Java and Python. However, we ended up using Java to implement our solution as we are more familiarised with the language and it’s suitability for representing a graphical interface.

**Part 1 algorithms**

Initially, our team planned the first step to plot the polygon given the set of vertices. This was relatively easy to implement, as it involved reading in a text file of inputs and putting said inputs into a set of vectors. These vectors are then plotted sequentially with lines being drawn accordingly.

**Part 2 algorithms**

**Algorithm complexities**

**Algorithm for testing guard sets**

**File processing**

Our implementation reads in the plaintext file that was provided and uses splitting functions to identify a list of coordinates (points) for each question by filtering all non-digit characters (excluding decimal numbers). This is then stored as a coordinate list that is called upon according to which question is being displayed in the program (our program allows the user to specify which question/gallery to show).

**Workload split**

Our workload was split fairly, with roles being allocated accordingly:

* Alex dealt with implementing the algorithms into Java code.
* Jamie assisted Alex with implementing some algorithms and dealt with file processing, as well as composing the report.
* Jasmine
* Yee Chong dealt with finding optimal algorithms for identifying the least amount of guards required.

**Github repository link**

https://github.com/lujasmine/teamsloth