

## Clemson University – School of Computing

## CPSC2150: Software Development Foundations

Lab 4

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# 1. Requirement Analysis

**User Story**:

* As a user of MyQueue, I will be able to choose the data structure type to use the most beneficial type for my system.

**Functional Requirements**:

* A user will be able to choose a preferred method implementing a queue.
* A user will be able to add and remove items to or from their preferred storage method.
* A user will be able to display the number of items in their storage structure

**Non-Functional Requirements**:

* MyQueue is designed to take advantage of the list and array structures and allow the user to select whether to have a high or low memory overhead.
* The user will have an instant response from the app.
* The program is modular. If the client desires to remove certain functions, they may be commented out. These methods will work on any system with JDK8 installed.
* The program is written in Java. The system must have JDK8 installed. The program was designed for a Unix based environment.
* All interfaces between the user and the app will be displayed via the terminal window.
* The app is delivered via one main.java file. The user must compile via the javac Main.java command and run the app via the java main command.

# 2. Design

A picture containing text, map

Description generated with very high confidence

A screenshot of a cell phone

Description generated with high confidence

# 3. Testing Methods

Testing will be performed by calling the application to use a list structure and an array structure

**LIST**

*Expected Output:*

Would you like to use an array or a list?

list

42

17

37

36

12

Process finished with exit code 0

**ARRAY**

*Expect Output:*

Would you like to use an array or a list?

Array

42

17

37

36

12

Process finished with exit code 0

# 4. Deployment

This program will include a make file which can be used for three operations make, make run, make clean. The makefile must be in the same folder as cpsc2150 and not inside of it or any other subfolder.

**make:**

Expected output:

javac cpsc2150/QueueApp/QueueApp.java

**make run:**

Expected output:

java cpsc2150.QueueApp.QueueApp

Would you like to use an array or a list?

**make clean:**

Expected output:

rm -f \*.class