# Lab A2: Java Streams

## Objectives

In this lab you will write some basic code to filter and sort some arbitrary objects using two different approaches, an imperative approach and then a functional approach using streams

## Lab Setup

Create a basic Java project with a single class called Demo with a main() method. This class will only be used to provide a way to run your code as a Java application

## Part One

1. Create a Runner class for the imperative code with a main() method.
2. Create an array of strings to use as the input data. You don’t have to use exactly the data shown but you should have something similar.
3. Create an empty list to hold the results.
4. Text

   Description automatically generatedWhat we want the code to do is produce a sorted list of strings that start with the letter ‘C’
5. Add the imperative code to do the filtering and sorting
6. Text, letter

   Description automatically generatedWe use some stream code here to make the sorting easier in the lab. Otherwise we would have to use one of the build in Array sort operations.
7. Run the code to confirm it works.

## Part Two

1. Create a StreamRunner class just like you did for the ImperativeRunner.
2. Copy the data structures from the previous section.
3. Text, letter

   Description automatically generatedReplace the Imperative code with the following streams code.
4. Run the code to confirm it works