1 Introduction

Your goal is to read in the information from shows.psv (pipe separated values) and store the data entries in an array that holds the data type `Show`. A `Show` object holds the following: `String title`, `String about`, `int episodeDuration`, `String[] genres`, `String[] actors`, `double rating`, `int votes`, `int[] years`. Note that for the `years` attribute, some shows are "ongoing" so only have a start date in the format of `year-`.

I suggest you use a constructor that takes a String array to build the `Show` objects, and use a `Scanner` to read the data from the file. Use the `delimiter()` method to set the delimiter to a pipe character, or use the `split()` method from the string class.

Create a `toString()` method for the `Show` object so that something meaningful is displayed when an object is printed.

2 Specification

Write the following methods with the following functionality.

Method	Return Type
findShowByTitle(String title)	Show
findShowsByGenre(String genre)	Shows[]
findShowsByActor(String actor)	Shows[]
findShowsByRelease(int year)	Shows[]

findShowByTitle

Write `findShowByTitle(String title)` that finds a show with the exact title of the show.

findShowsByGenre

Write `findShowsByGenre(String title)` that finds an array of shows that contain the specified genre. Note that you'll have to traverse twice. Once to find the number of movies and again to fill in the array you make. If you want to try to do it with a single traversal, read how to use an `ArrayList` object, but this is not necessary to recieve full credit.

findShowsByActor

Write `findShowsByActor(String actor)` that finds an array of shows that contain a specific actor/actress. Note that you'll have to traverse twice. Once to find the number of movies and again to fill in the array you make. If you want to try to do it with a single traversal, read how to use an `ArrayList` object, but this is not necessary to recieve full credit.

findShowsByRelease

Write `findShowsByRelease(int year)` that finds an array of shows released during a specific year. Note that you'll have to traverse twice. Once to find the number of movies and again to fill in the array you make. If you want to try to do it with a single traversal, read how to use an `ArrayList` object, but this is not necessary to recieve full credit.

sortShowsByTitle

Write `sortShowsByTitle` that sorts an array of Show objects *in-place* alphabetically, by their titles.

sortShowsByRating

Write `sortShowsByRating` that sorts an array of Show objects *in-place* by their rating.

sortShowsByYear

Write `sortShowsByYear` that sorts an array of Show objects *in-place* by their release date.

Think about stability!

Try out the sorting algorithms you know on the three sorts and explore the *stability* of the sorts. If you sort with respect to one criteria, then again with respect to another, does the array stay sorted with respect to the first criteria?