Earthquakes: Sorting Algorithms

Quiz, 8 questions

7/8 points (87%)

Congratulations! You passed!

Next Item

0 / 1 points

1. For an assignment you wrote the method **sortByLargestDepth** in the class **QuakeSortInPlace** to sort earthquakes by their depth from largest depth to smallest depth using the selection sort algorithm. Modify this method to do exactly 70 passes and then modify **testSort** to run this method on the file **earthQuakeDataDec6sample2.atom**. The file may not be completely sorted as there are many quakes in the file.

After running your program of 70 selection sort passes on this file, what is the depth of the last earthquake in the ArrayList?

Note: This question has variations. If you attempt this quiz multiple times, make sure you are using the correct number of sort passes!

-1100.00

Incorrect Response

1 / 1 points

2. For an assignment you wrote the method **sortByMagnitudeWithCheck** in the class **QuakeSortInPlace** to sort earthquakes by their magnitude from smallest to largest using the selection sort algorithm, and stopping with passes once the ArrayList is sorted. Modify **testSort** to run this method on the file **earthQuakeDataWeekDec6sample2.atom**.

How many passes are needed to sort this file?

Note: This question has variations. If you attempt this quiz multiple times, make sure you are using the correct data file!

- 1259
- 1273
- 1277

Correct

- 1279
- 1280
- 1284

1 / 1 points

3. For an assignment you wrote the method **sortByMagnitudeWithBubbleSortWithCheck** in the class **QuakeSortInPlace** to sort earthquakes by their magnitude from smallest to largest using the bubble sort algorithm, and stopping with passes once the ArrayList is sorted. Modify **testSort** to run this method on the file **earthQuakeDataWeekDec6sample2.atom**. Make sure you are using the updated (1/12/16) version of the EarthquakeParser class.

How many passes are needed to sort this file?

Note: This question has variations. If you attempt this quiz multiple times, make sure you are using the correct data file!

- 1226
- 1233
- 1240
- 1255

Correct

- 1260
- 1267

1 / 1 points

4. Consider an ArrayList of following six integers.

2 4 5 9 8 1

What does this ArrayList look like after two passes of selection sort that sorts the elements in numeric order from smallest to largest?

- **1 2 4 9 8 5**
- **1 2 5 4 9 8**
- **1 2 5 9 8 4**

Correct

Here are the Selection Sort passes for this example. Four passes are needed.

2 4 5 9 8 1

1 4 5 9 8 2

1 2 5 9 8 4

1 2 4 9 8 5

1 2 4 5 8 9

- **1 4 5 9 8 2**
- **2 4 5 9 8 1**
- **4 1 5 2 8 9**

1 / 1 points

5. Consider an ArrayList of following six integers.

4 2 5 9 8 1

What does this ArrayList look like after two passes of bubble sort that sorts the elements in numeric order from smallest to largest?

- **2 4 1 5 8 9**
- **2 4 5 1 8 9**

Correct

Here are the passes for bubble sort.

4 2 5 9 8 1

2 4 5 8 1 9

2 4 5 1 8 9

2 4 1 5 8 9

2 1 4 5 8 9

1 2 4 5 8 9

- **2 4 5 8 1 9**
- **4 2 5 1 8 9**
- **4 2 5 8 1 9**
- **4 2 5 9 8 1**

1 / 1 points

6. For an assignment, you modified the **compareTo** operator in the class **QuakeEntry** to sort earthquakes by their magnitude first, from smallest magnitude to largest magnitude, and to break ties by their depth, from largest depth to smallest depth. Then you wrote the method **sortWithCompareTo** in the **DifferentSorters** class using the **Collections.sort** method. Modify this method to print out the **QuakeEntry** in position 600 after sorting the **QuakeEntry**'s by the above method. Run this method on the file **earthQuakeDataWeekDec6sample2.atom**.

What is the depth of the earthquake that is in position 600 after the earthquakes are sorted by the above method?

Note: This question has variations. If you attempt this quiz multiple times, make sure you are using the correct data file!

-53600.00

Correct Response

The quake entry in position 600:

(61.90, -150.66), mag = 1.40, depth = -53600.00, title = 37km WNW of Willow, Alaska

1 / 1 points

7. For an assignment, you wrote the **TitleAndDepthComparator** to sort earthquakes by their title first, in alphabetical order, and to break ties by their depth, from smallest depth to largest depth. You then used the **Collections.sort** method with the **TitleAndDepthComparator**. Modify the **sortByTitleAndDepth** method in the **DifferentSorters** class to print out the **QuakeEntry** in position 500 after sorting the **QuakeEntry**'s by the above method. Run this method on the file **earthQuakeDataWeekDec6sample2.atom**.

What is the depth of the earthquake that is in position 500 after the earthquakes are sorted by the above method?

Note: This question has variations. If you attempt this quiz multiple times, make sure you are using the correct data file!

-7630.00

Correct Response

The quake entry in position 500:

(39.16, -123.16), mag = 1.60, depth = -7630.00, title = 2km NNE of Talmage, California

1 / 1 points

8. For an assignment, you wrote the **TitleLastAndMagnitudeComparator** to sort earthquakes by the last word in their title first, in alphabetical order, and to break ties by their magnitude, from smallest to largest. You then used the **Collections.sort** method with the **TitleLastAndMagnitudeComparator**. Modify the **sortByLastWordInTitleThenByMagnitude** method in the **DifferentSorters** class to print out the **QuakeEntry** in position 500 after sorting the **QuakeEntry**'s by the above method. Run this method on the file **earthQuakeDataWeekDec6sample2.atom**.

What is the depth of the earthquake that is in position 500 after the earthquakes are sorted by the above method?

Note: This question has variations. If you attempt this quiz multiple times, make sure you are using the correct data file!

-1490.00

Correct Response

The quake entry in position 500:

(38.81, -122.81), mag = 0.90, depth = -1490.00, title = 5km NW of The Geysers, California