Text Processing in Linux - the 'sort' command - #7

HackerRank

Problem Statement

Introduction and References

In linux, the most vanilla version of 'sort' simply rearranges the lines in a file, in lexicographical order. Using a variety of flags and options, **sort** can also be extended in various powerful ways. The command can also be used for sorting tables of data, delimited by commas (csv) or tabs (tsv) or even spaces; on a particular column or field. The **-k** option helps sort the input file on a particular field, i.e. the column number. The **-t** option helps specify the delimiting character depending on the file format.
For example, we'd use:

```
-t $'\t' for a tab delimited file
-t',' for a comma delimited file
-t'|' for a pipe delimited file
```

A few useful resources to study these variations of *sort* are:
A Wikipedia entry for the 'sort' command
How to Sort Files in Linux using Sort Command

Task

You are given a file of **pipe-delimited** weather data (TSV). There is no header column in this data file. The first five columns of this data are: (a) the name of the city (b) the average monthly temperature in Jan (in Fahreneit). (c) the average monthly temperature in April (in Fahreneit). (d) the average monthly temperature in July (in Fahreneit). (e) the average monthly temperature in October (in Fahreneit).

You need to sort this file in **descending order** of the second column (i.e. the average monthly temperature in January).

Input Format

A text file with multiple lines of **pipe-delimited** data. The first five fields have been explained above

Output Format

Sort the data in descending order of the average monthly temperature in January.

Sample Input

```
Albany, N.Y.|22.2|46.6|71.1|49.3|38.60|136|64.4|57
Albuquerque, N.M.|35.7|55.6|78.5|57.3|9.47|60|11.0|64
Anchorage, Alaska|15.8|36.3|58.4|34.1|16.08|115|70.8|39 / 60
Asheville, N.C.|35.8|54.1|73.0|55.2|47.07|126|15.3|39
Atlanta, Ga.|42.7|61.6|80.0|62.8|50.20|115|2.1|69 / 65
Atlantic City, N.J.|32.1|50.6|75.3|55.1|40.59|113|16.2|60 / 54
Austin, Texas|50.2|68.3|84.2|70.6|33.65|85|0.9|62 / 58
Baltimore, Md.|32.3|53.2|76.5|55.4|41.94|115|21.5|53
Baton Rouge, La.|50.1|66.6|81.7|68.1|63.08|110|0.2|52 / 46
Billings, Mont.|24.0|46.1|72.0|48.1|14.77|96|56.9|69
Birmingham, Ala.|42.6|61.3|80.2|62.9|53.99|117|1.5|60
Bismarck, N.D.|10.2|43.3|70.4|45.2|16.84|96|44.3|64
Boise, Idaho|30.2|50.6|74.7|52.8|12.19|89|20.6|64
Boston, Mass.|29.3|48.3|73.9|54.1|42.53|127|42.8|52 / 66
Bridgeport, Conn.|29.9|48.9|74.0|54.7|44.15|119|26.2|55 / 49
```

Sample Output

```
Austin, Texas|50.2|68.3|84.2|70.6|33.65|85|0.9|62 / 58
Baton Rouge, La.|50.1|66.6|81.7|68.1|63.08|110|0.2|52 / 46
Atlanta, Ga.|42.7|61.6|80.0|62.8|50.20|115|2.1|69 / 65
Birmingham, Ala.|42.6|61.3|80.2|62.9|53.99|117|1.5|60
Asheville, N.C.|35.8|54.1|73.0|55.2|47.07|126|15.3|39
Albuquerque, N.M.|35.7|55.6|78.5|57.3|9.47|60|11.0|64
Baltimore, Md.|32.3|53.2|76.5|55.4|41.94|115|21.5|53
Atlantic City, N.J.|32.1|50.6|75.3|55.1|40.59|113|16.2|60 / 54
Boise, Idaho|30.2|50.6|74.7|52.8|12.19|89|20.6|64
Bridgeport, Conn.|29.9|48.9|74.0|54.7|44.15|119|26.2|55 / 49
Boston, Mass.|29.3|48.3|73.9|54.1|42.53|127|42.8|52 / 66
Billings, Mont.|24.0|46.1|72.0|48.1|14.77|96|56.9|69
Albany, N.Y.|22.2|46.6|71.1|49.3|38.60|136|64.4|57
Anchorage, Alaska|15.8|36.3|58.4|34.1|16.08|115|70.8|39 / 60
Bismarck, N.D.|10.2|43.3|70.4|45.2|16.84|96|44.3|64
```

Explanation

The data has been sorted in **descending order** of the average monthly temperature in January (i.e, the second column).