

B.Eng (L7/L8) in Software and Electronic Engineering.

I2J Project 2022

Download the attached project.csv file and save it in anywhere in your PC .

The attached file contains weather data for Shannon Airport from 1945 – 2021.

The following are the keys to the data in the initial header line in the CSV file.

year: - Year, **month:** - Month, **meant:** - Mean Air Temperature (C)

maxtp: - Maximum Air Temperature (C), **mintp:** - Minimum Air Temperature (C)

mnmax: - Mean Maximum Temperature (C), **mnmin:** - Mean Minimum Temperature (C)

rain: - Precipitation Amount (mm), **gmin:** - Grass Minimum Temperature (C)

wdsp: - Mean Wind Speed (knot), **mxgt:** - Highest Gust (knot),

sun: - Sunshine duration (hours)

0) Create a NEW PROJECT and design the following GUI application.

1) Create a "Read CSV JButton" that when pressed activates a JFileChooser to select the weather data in the project.csv file.

Read the contents and create a weather object for each valid row and store these objects in an ArrayList for data sorting.

Display the contents of the file in a JTextArea with JScrollPane.

Write code that will handle any errors in CSV file.

2) Create four JButtons (not active until the CSV file is displayed)

- **"Display maxtp Temp" JButton** displays all the data in the TextArea sorted in Air Temperature ascending order.
- **"Display rain" JButton** displays all the data in the TextArea sorted in rain fall descending order.
- **"Display Mean Wind Speed" JButton** displays all the data in the TextArea sorted in Mean Wind Speed descending order.
- **"Display sun" JButton** displays all the data in the TextArea sorted in Sunshine duration ascending order.

3) Create a "save" JButton (not active until the CSV file is displayed) that activates a "enter File name" JTextField that allow you to enter the name of a file.

Then using this file name, store the data that is displayed in the JTextField to the defined file name.

4) Attach a small readme.txt to the project which outlines the sections completed and the problems you encountered in the project