TY B.Tech. (CSE) – II [2021-22]

Software Engineering Tools Lab

PRN/ Roll No: 2019BTECS00011

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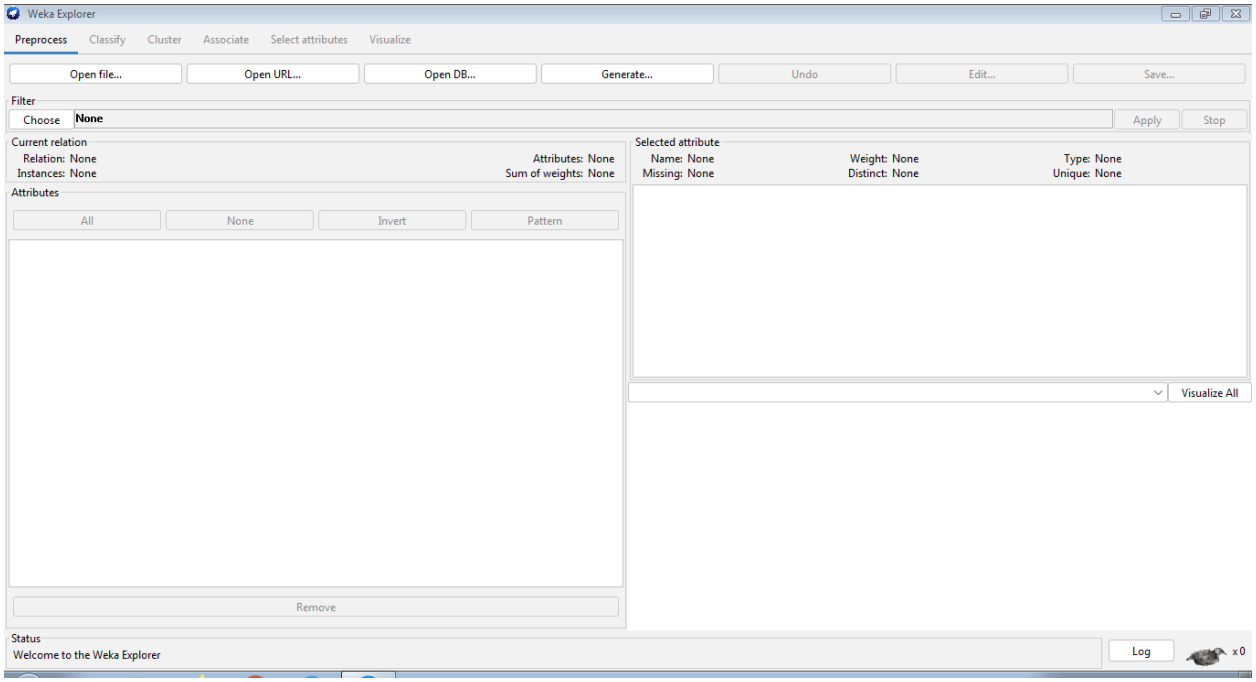
Batch: T3

Assignment No. 1

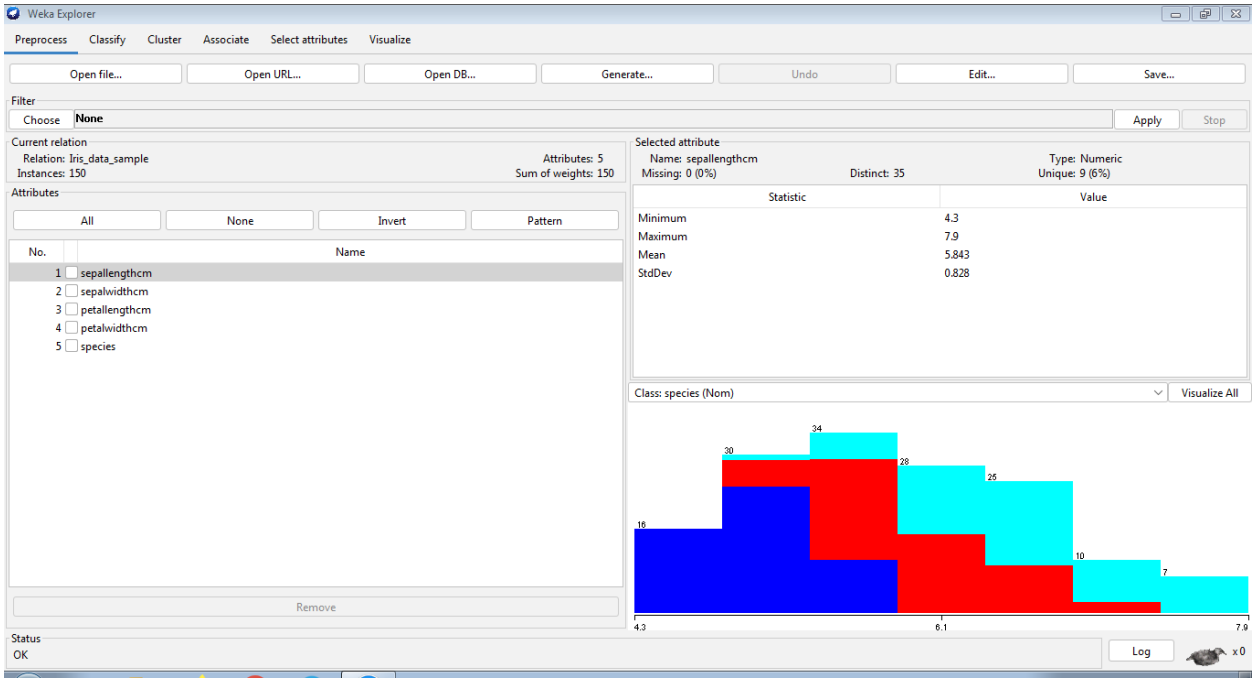
Module 1- Introduction to OSS

1) **Weka is a GUI workbench that empowers data wranglers to assemble machine learning pipelines, train models and run predictions without having to write code.**
   Using the Weka tool perform below tasks such as data pre-processing, data classification (use any appropriate ML algorithm), and data visualization efficiently on a given dataset.
   Use the Iris dataset given-
   https://drive.google.com/file/d/1A3Fxsfzm6BSfhFZGDrjI47RTe45bSgYP/view
   Note-provide screenshots for every task
   Create a report which will illustrate the details of tasks performed (for e.g to perform pre-processing of data provide details of navigation and selection of appropriate parameters)

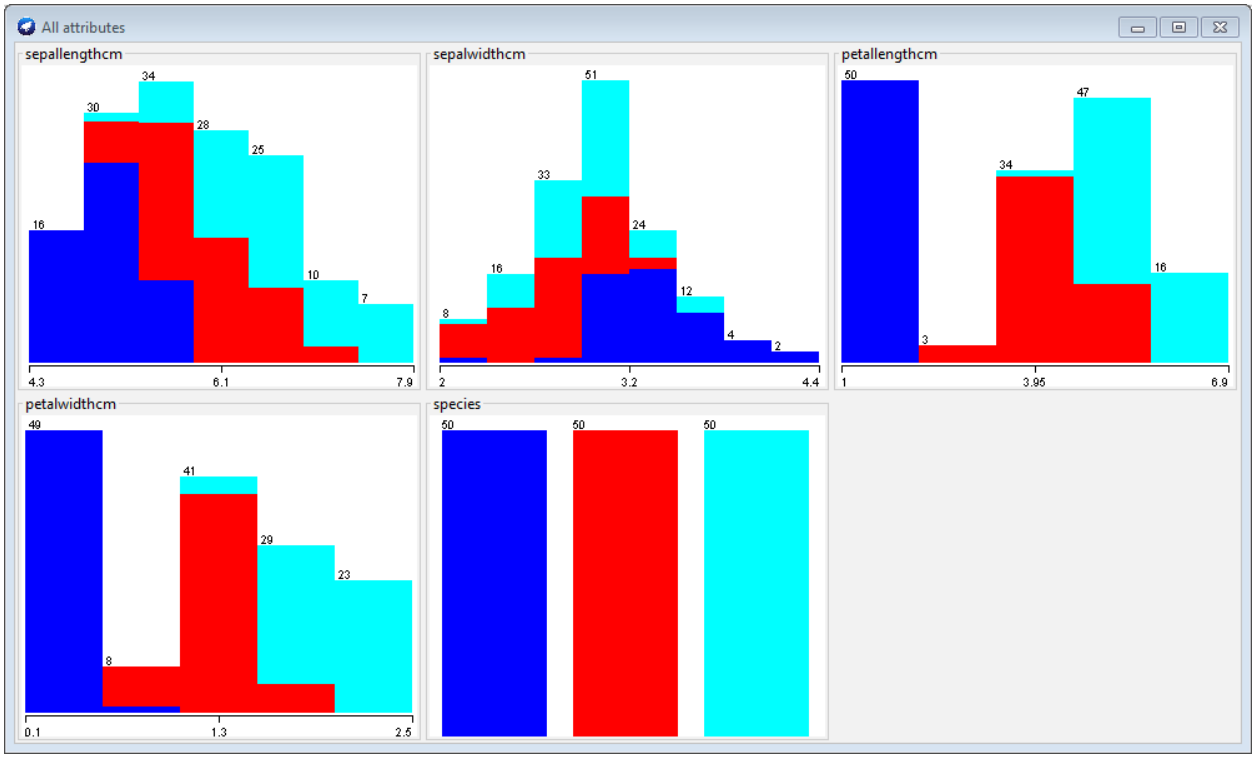
Weka



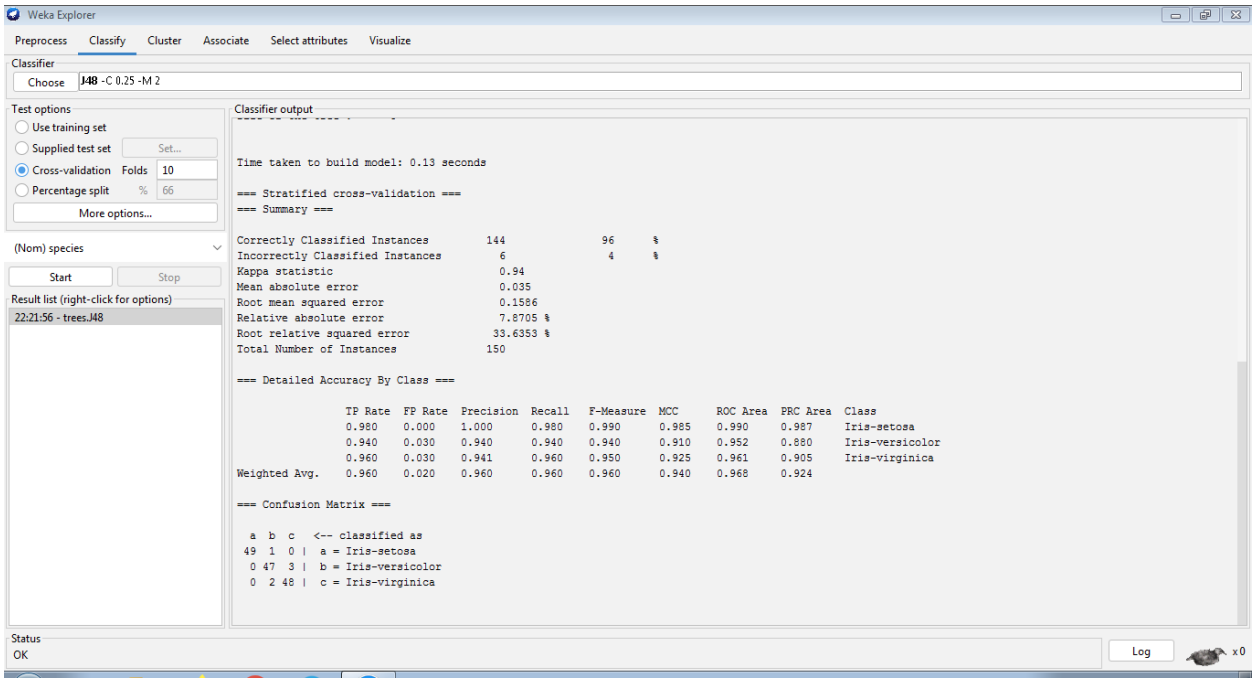
Pre-process



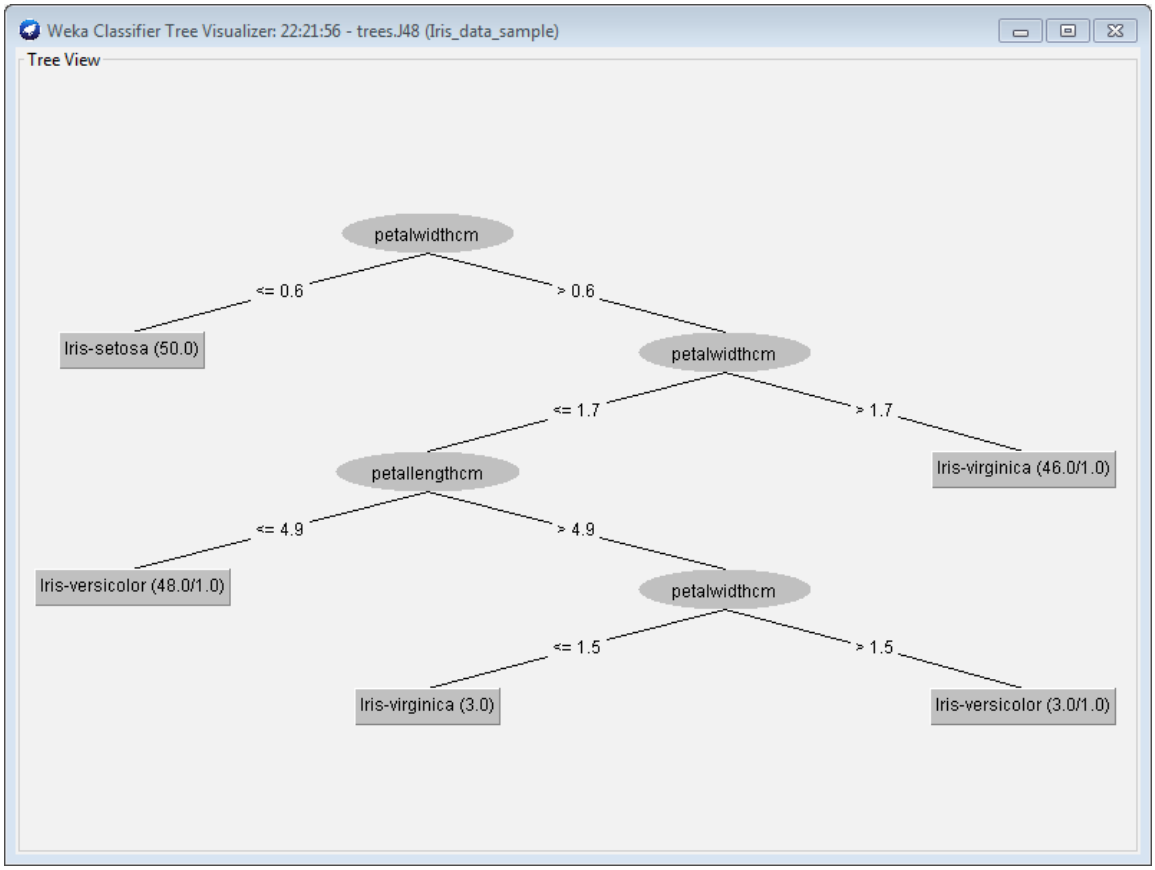
Visualize All



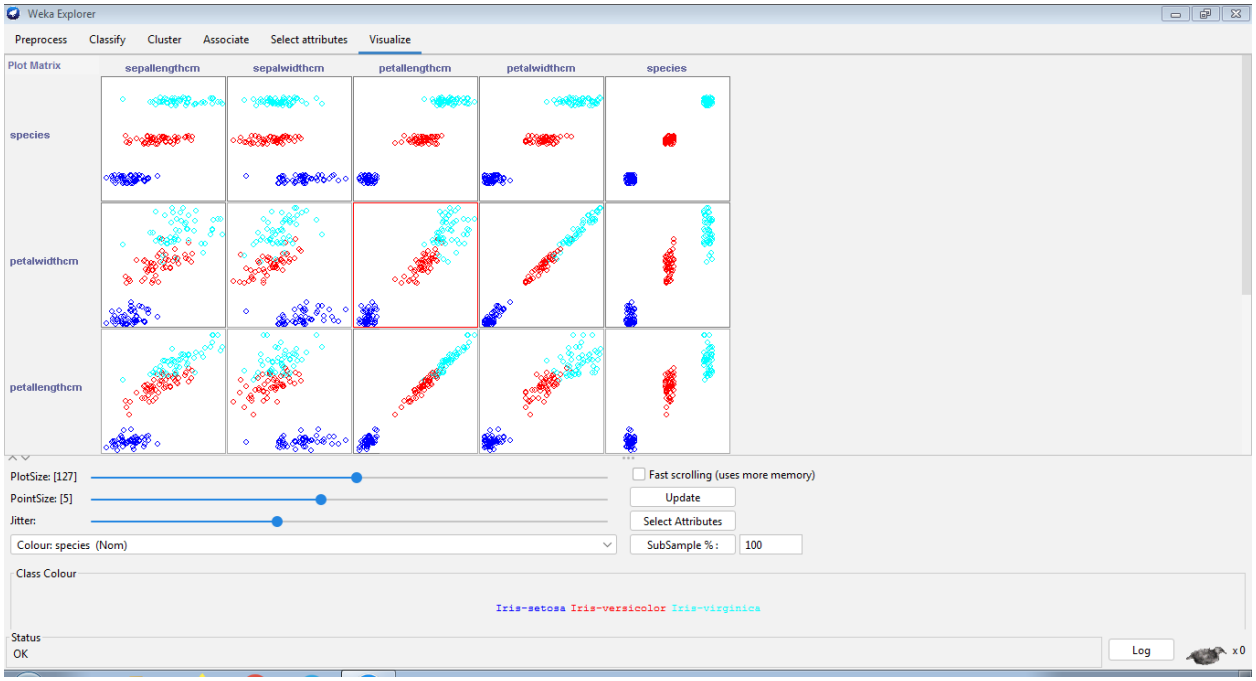
Classify

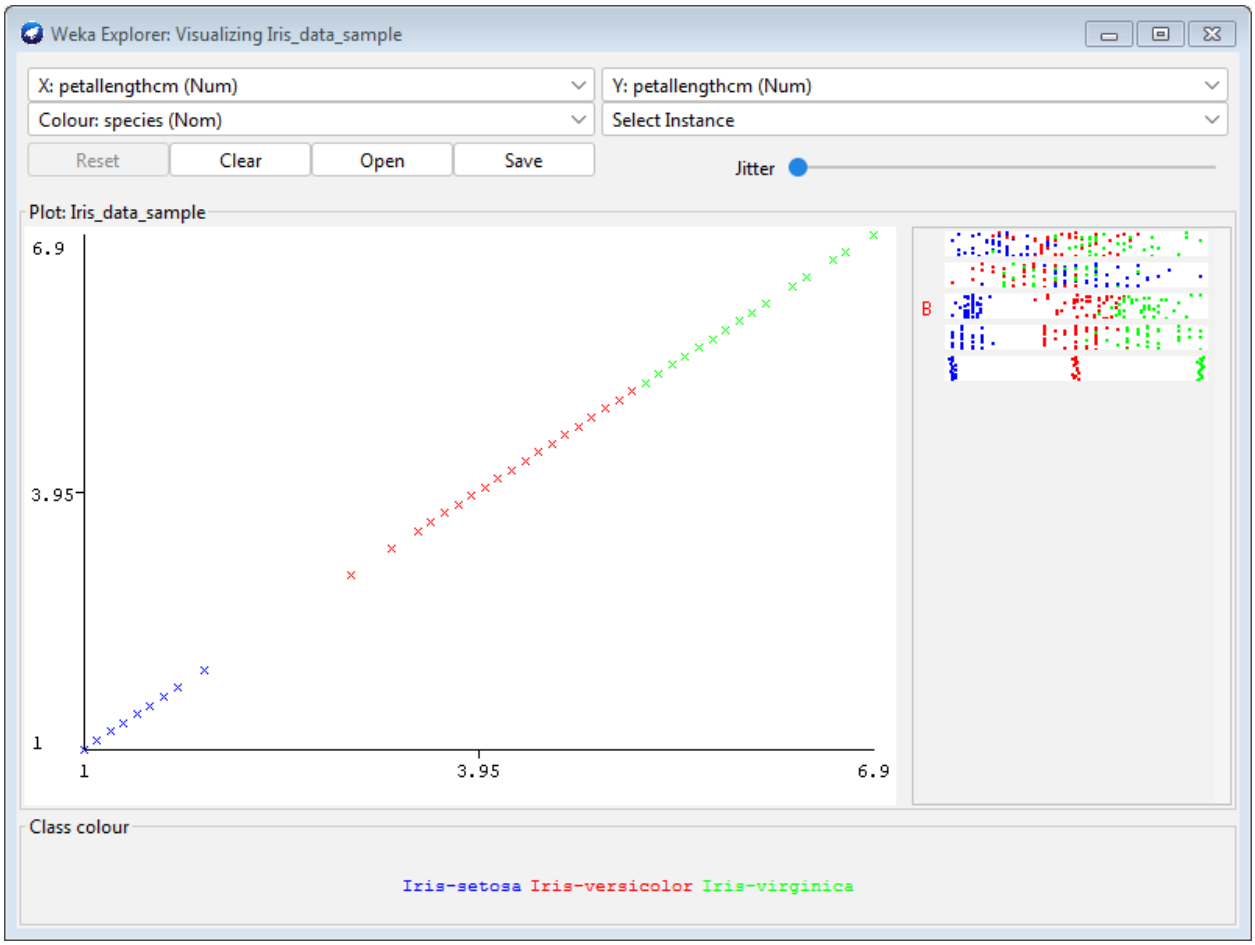


ML Algorithm



Visualize





2) Orange is an easy-to-use data visualization tool with a large toolkit. Despite being a GUI-based beginner-friendly tool, you mustn't mistake it for a lightweight one. It can do statistical distributions and box plots as well as decision trees, hierarchical clustering, and linear projections.

a. Install orange

b. Show data distribution

c. Show linear projection

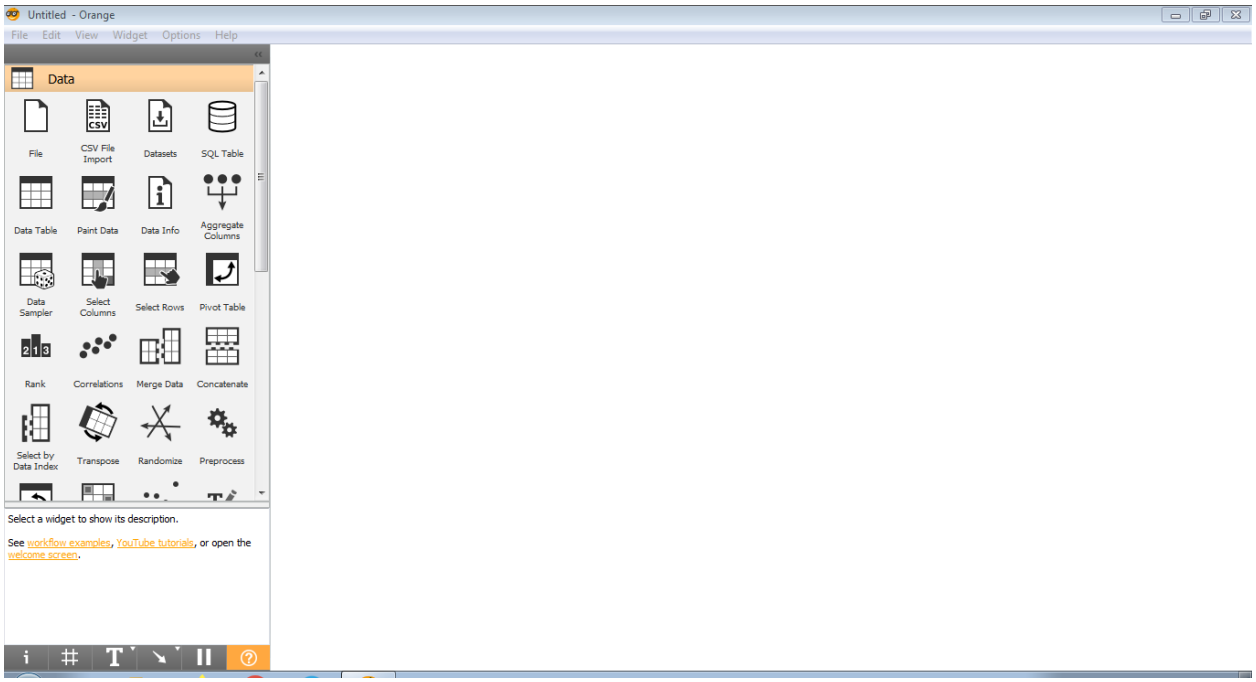
d. Show FreeViz

Use dataset

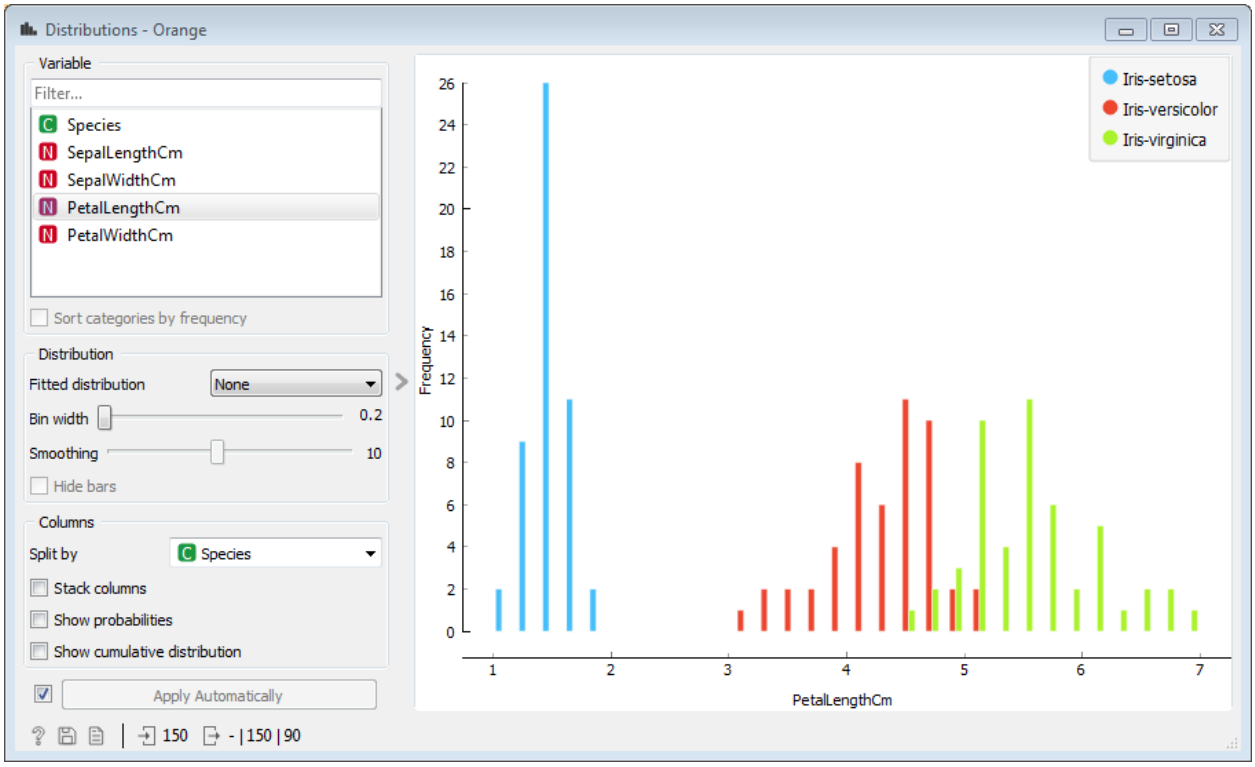
https://drive.google.com/file/d/1m6sKI1Dap0XK6Bw1edUd5PohwpPwXnd9/view

Create a report for this task and upload screenshots for the same.

Orange

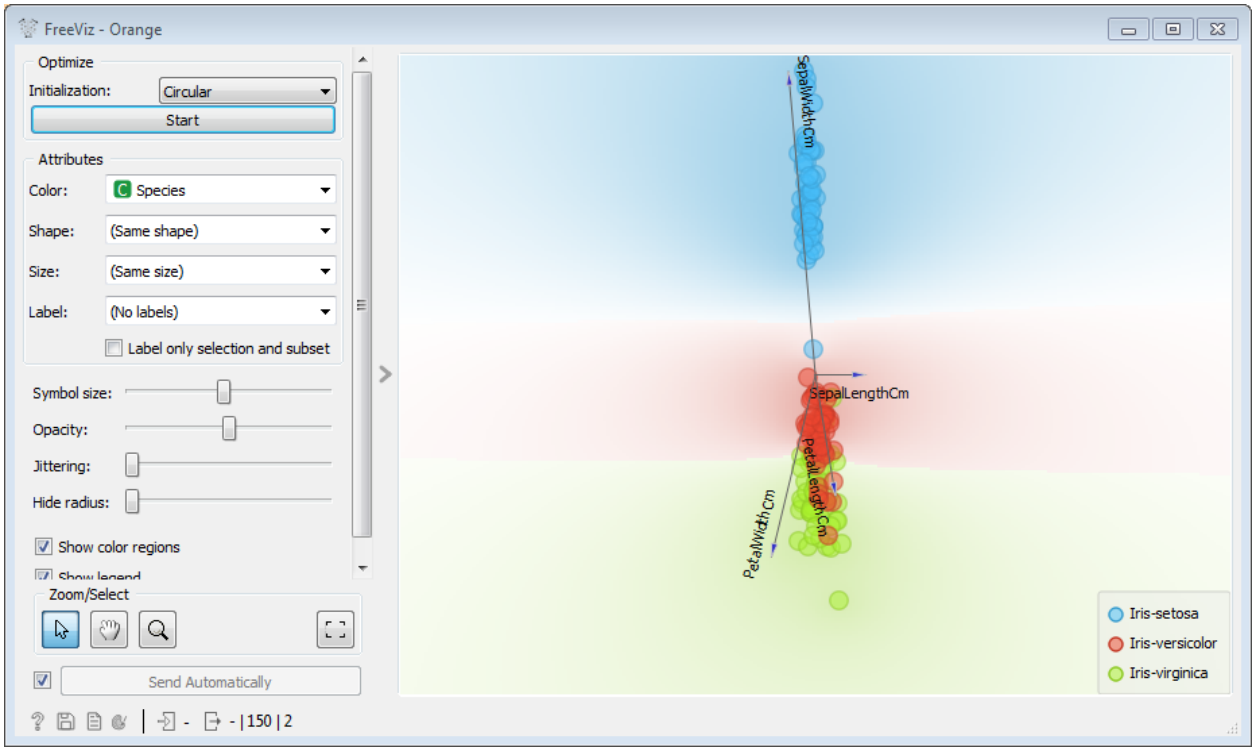


Distributions



Linear Projection

Freeviz – Multivariate Projection



3) Differentiate between free software, Open source software, and proprietary software concerning its properties.

Free Software

"Free software" means software that respects users' freedom and community. Roughly, it means that the users have the freedom to run, copy, distribute, study, change and improve the software.

The term "free software" is sometimes misunderstood—it has nothing to do with price. It is about freedom.

While open source is a development philosophy that is more business-oriented, free software is a social and moral philosophy.

Open Source Software

Open-source software is computer software whose source code is available openly on the internet and programmers can modify it to add new features and capabilities without any cost. Here the software is developed and tested through open collaboration. This software is managed by an open-source community of developers. It provides community support as well as commercial support is available for maintenance. We can get it for free of cost. This software also sometimes comes with a license and sometimes does not.

Free software is a social movement while open source is a development methodology. That's why the term open source is more palatable to the corporate world because it places less emphasis on freedom.

Proprietary Software

Proprietary software is computer software where the source codes are publicly not available only the company that has created can modify it. Here the software is developed and tested by the individual or organization by which it is owned not by the public. This software is managed by a closed team of individuals or groups that developed it. We have to pay to get this software and its commercial support is available for maintenance. The company gives a valid and authenticated license to the users to use this software.

4) **Using Anaconda Python create Histogram, Scatter plot, and Bar plot for the dataset given below.**

Dataset-

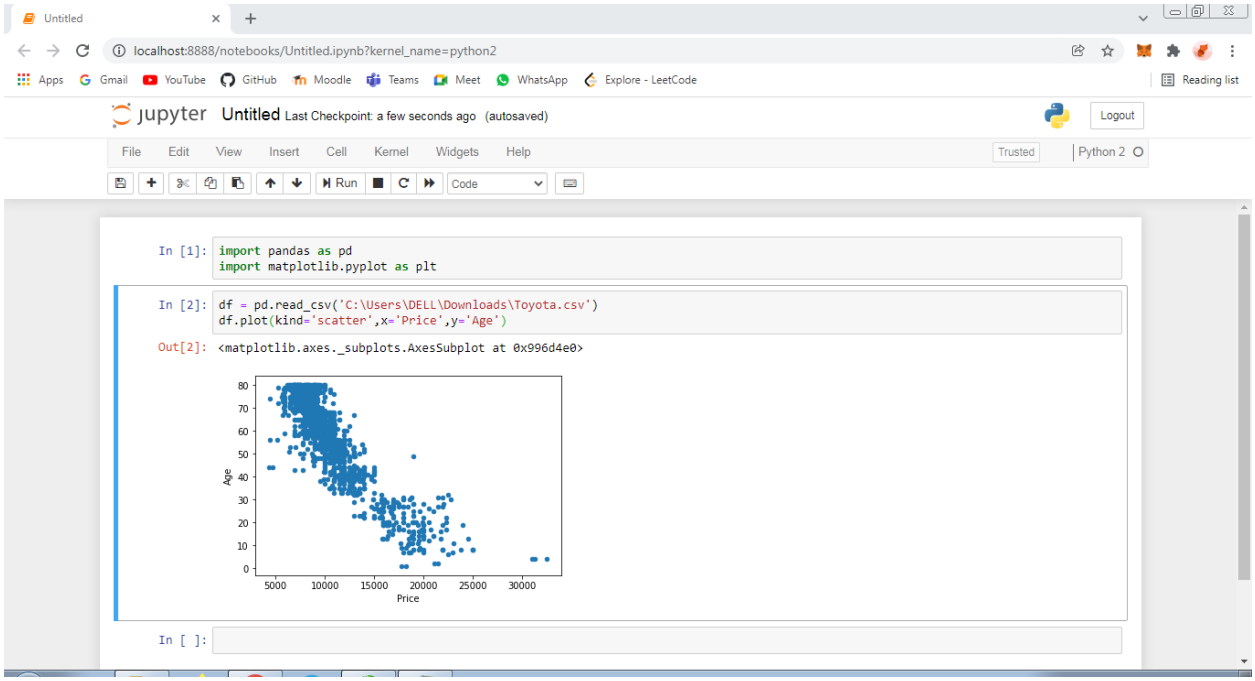
https://drive.google.com/file/d/1i11BZFe8Xj9kNq7eeE9KOa_Iz1KhEdXJ/view

a. Scatter plot- Scatter plot of Price Vs Age

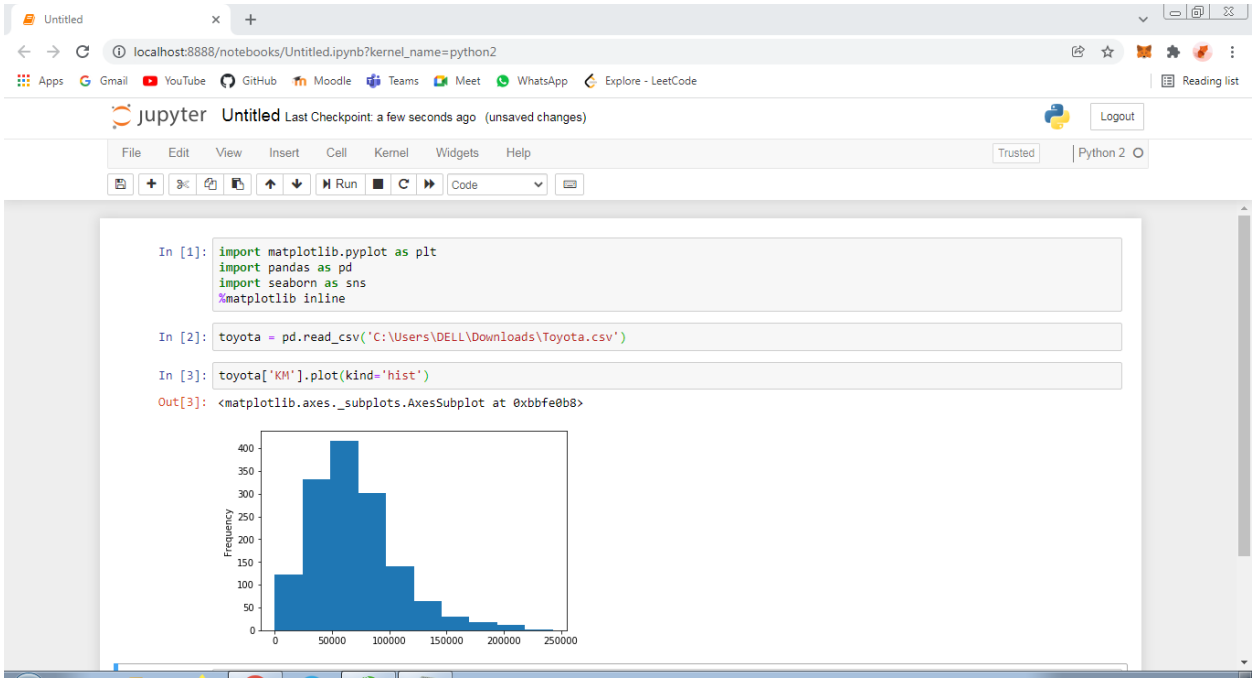
b. Histogram- for Kilometer and CC

c. Bar plot- Bar plot for different fuel types

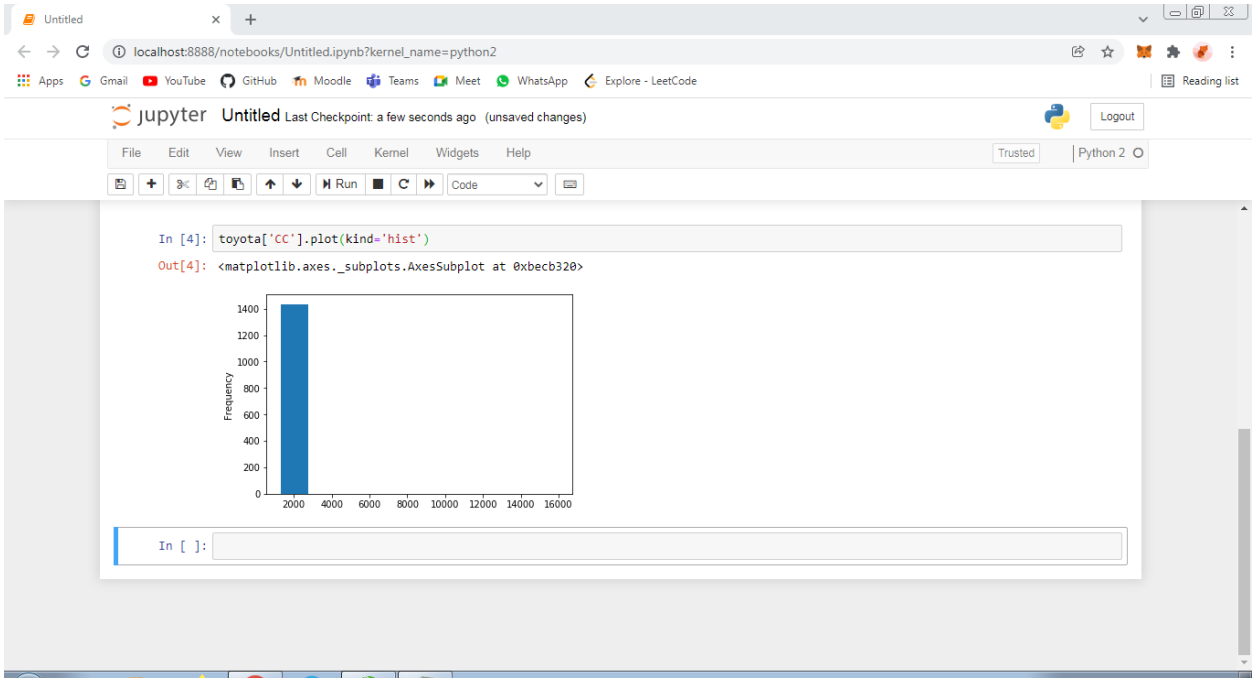
Scatter Plot – Price v/s Age



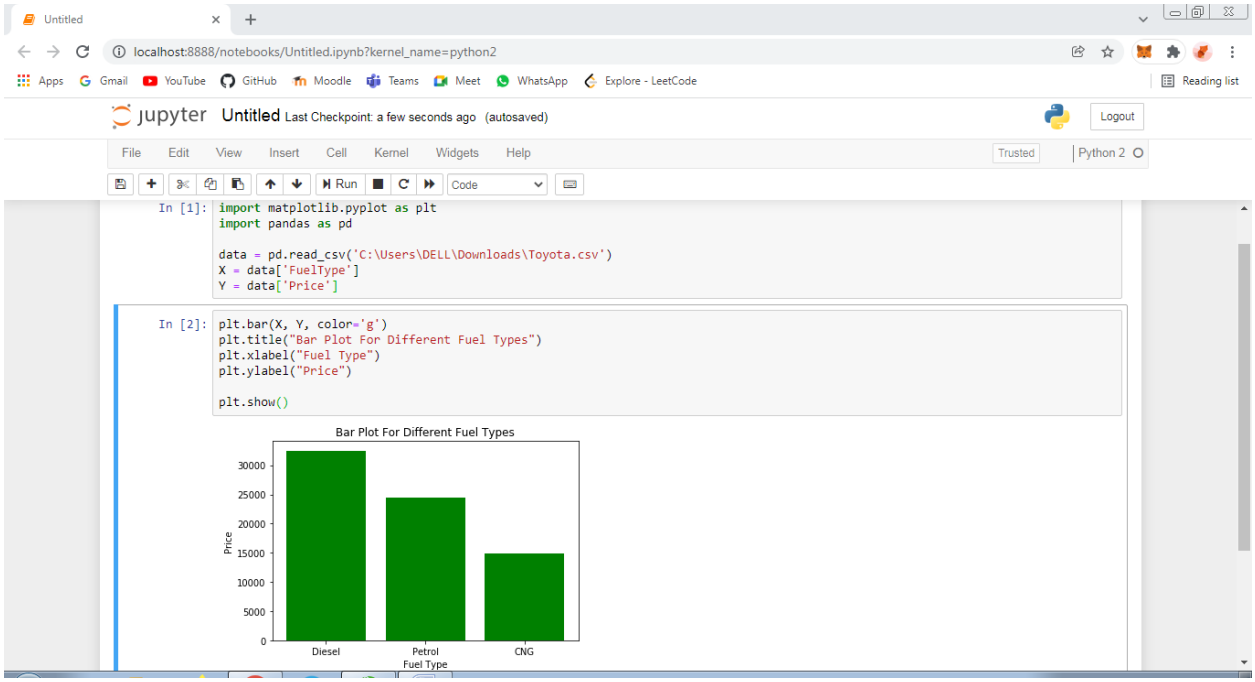
Histogram – Kilometer



Histogram – CC



Bar Plot – Fuel Types



5) **Enlist some examples along with their purpose and properties (at least 10) of FOSS and proprietary software concerning database.**

FOSS Software's

a) **Mozilla Firefox – Mozilla Firefox is a customizable internet browser and free open-source software. It offers thousands of plug-ins that are accessible with a single click of your mouse.**

b) **VLC Media Player – VLC Media Player is one of the most popular open-source software examples that you can use for free. This multimedia player is used for video, media, and audio files and it plays discs, webcams, streams, and devices.**

c) **Linux – Linux operating system is most commonly used on desktops. What makes this operating system different from the others is that it costs nothing and it is incredibly customizable.**
d) **Blender – Blender is a 3D graphics and animation tool that supports motion tracking, simulation, animation, video editing, rendering, modeling and much more**
e) **GNU Compiler Collection – GNU Compiler Collection is a collection of compilation tools for software development in C, C++, and other programming languages.**

<u>Proprietary Software's</u>

a) **Microsoft Windows – Windows is a group of several proprietary graphical operating system families, all of which are developed and marketed by Microsoft.**
b) **Adobe Flash Player – Adobe Flash Player is computer software for content created on the Adobe Flash platform. Flash Player is capable of viewing multimedia content, executing rich Internet applications, and streaming audio and video.**
c) **iTunes – iTunes is a media player, media library, Internet radio broadcaster, mobile device management utility, and the client app for the iTunes Store, developed by Apple Inc.**
d) **Google Earth - Google Earth is a computer program, that renders a 3D representation of Earth-based primarily on satellite imagery.**
e) **Skype – Skype is a proprietary telecommunications application that specializes in providing VoIP-based video telephony, videoconferencing, and voice calls.**