**Set Up Document**

**Overview**

This document provides the setup details for the Python environment used to execute the machine learning models as outlined in the provided script. It includes information about the Python version, the required packages, and their respective versions.

**Python Version**

The script is intended to be run using Python 3.8. Ensure that Python 3.8 is installed on your system. You can download it from the official Python website.

**Python Environment Setup**

It is recommended to use a virtual environment to manage dependencies and avoid conflicts. This can be done using ‘*venv’*, ‘*conda’*, or any other virtual environment manager. In this case, conda has been used as a virtual environment manager.

**Required Packages**

The following packages are required to run the script. Ensure these packages are installed in your virtual environment.

* *pandas*: For data manipulation and analysis.
* *numpy*: For numerical computations.
* *scikit-learn*: For machine learning algorithms and tools.
* *matplotlib*: For data visualization.
* *seaborn*: For statistical data visualization.

**Package Versions**

Here are the specific versions of the packages that have been tested with the script:

* *pandas*: 1.3.3
* *numpy*: 1.21.2
* *scikit-learn*: 0.24.2
* *matplotlib*: 3.4.3
* *seaborn*: 0.11.2

**Installation Instructions**

Once the virtual environment is activated, you can install the required packages using the following commands: *‘pip’* or *‘conda’.*

**Running the Script**

After setting up the virtual environment and installing the required packages, you can run the Python script by executing: *‘python Group8Python.py’.*

Note: - Ensure that the script file (Group8Python.py) is located in the same directory from which you are running the command or provide the appropriate path to the script file.

**Additional Notes**

Ensure your Python environment has internet access if installing packages via pip or conda.

If using an IDE like VSCode, PyCharm, Spyder or Jupyter Notebook, configure the IDE to use the created virtual environment.

Regularly update the packages to their latest versions if compatibility with the script is verified.

By following these steps, you should have a well-defined and consistent Python environment suitable for running the machine learning models and visualizations specified in the provided script.