The significance of the files submitted are given below

CredCompanion.ipynb :- is the Jupyter Notebook where the code resides. Steps to be able to run the code are given in the section below.

CredCompanion_HTML_Extract.html :- is the HTML extract of the Jupyter notebook which can be used to only view the code and the output.

Credit_Card_Data.xlsx :- is the excel workbook where the information collected on Credit Cards is stored.

Example_1.xlsx :- is the example file for customer preferences (shown in the Numerical example section of the report).

Example_12020_Dec_07_21_12_48.xlsx :- is the output file generated by the tool for the above Example_1 customer preferences.

Sensitivity_Example_1.xlsx :- is the example file for sensitivity analysis example 1 (shown in the Discussions section of the report).

Sensitivity_Example_12020_Dec_01_21_44_32.xlsx :- is the output file generated by the tool for the above Sensitivity_Example_1 customer preferences.

Sensitivity_Example_2.xlsx :- is the example file for sensitivity analysis example 2 (shown in the Discussions section of the report).

Sensitivity_Example_22020_Dec_01_22_06_16.xlsx :- is the output file generated by the tool for the above Sensitivity_Example_2 customer preferences.

The steps to run the code using the Jupyter Notebook are given below

Step 1: Download and Install Gurobi

Gurobi can be downloaded and installed from https://www.gurobi.com/downloads/

Step 2: Request a Gurobi License

A license has to be requested to activate Gurobi. The free academic license was used for this project. The license can be requested from the same path https://www.gurobi.com/downloads/

Step 3: Install Gurobi License

The steps to install the license obtained are explained in the path https://www.gurobi.com/documentation/9.0/quickstart_linux/retrieving_and_setting_up_.html#section:RetrieveLicense

Step 4: Download and Install Anaconda

In order to use Jupyter notebooks and Gurobi's python interface, we have to install Anaconda. This can be done from the link https://www.anaconda.com/products/individual

Step 5: Install Gurobi into Anaconda

This installs the Gurobi interface for python. In order to do so, run the following commands on the conda terminal:

```
conda config --add channels http://conda.anaconda.org/gurobi
conda install gurobi
```

Step 6: Install Other Python Dependencies:

Other python libraries have also been used in this project. The list of dependencies and the command to install them are given below

Pandas: `conda install -c anaconda pandas`

Numpy: `conda install -c anaconda numpy`

Tkinter: `conda install -c anaconda tk`

Openpyxl: `conda install -c anaconda openpyxl`