1. PROBLEM STATEMENT

A machine learning solution is required to determine the rating of different types of laptops. Ensemble machine learning techniques are required in an attempt to improve on the results obtained from assignment 1.

2. DATA ACQUISITION

The dataset you will use for this assignment is called "Laptops2.csv". It was pre-processed from the original "Laptops.csv" that was used for assignment 1 and will be used for machine learning without any further pre-processing required. You will use the attached Laptops2.csv dataset for assignment 2. The details of the original dataset are given below for reference only.

3. ASSIGNMENT REQUIREMENTS:

1. You are required to follow the machine learning pipeline/process for a binary classification problem for the above problem using python and Jupyter notebook.

2. You are required to use the attached Jupyter notebook called Assignment 2 MALE402 2025.ipynb and the dataset called `Laptops2.csv`

3. You must RENAME the notebook using your student number followed by A2. For example, if your student number was 201912345 then the notebook will be renamed to `201912345A2.ipynb`.

4. Complete the notebook by answering all the questions (where it says #REQUIRED). You must write your code/comments etc. in the notebook itself. You must write actual code where required that will give the appropriate output. DO NOT delete my original comments/instructions from any cells.

5. Your assignment consisting of only the Jupyter notebook named as per 3 above must be uploaded to Moodle ONLY (not emailed), under the section "UPLOAD ASSIGNMENT 2 HERE" on or before the due date and time stated in 6 below. Emailed solutions will be disregarded.

6. Due date: On or before Monday, 02 June 2025, 08:00. You will not be able to upload your solution to Moodle after this date and time has passed and as such no late submissions can be accepted.

   NOTE: DO NOT wait for the last minute to complete and upload your assignment as you may not be given extra time to submit should there be Moodle or other issues on the due date and time.

7. You must only submit ONE solution consisting of your Jupyter notebook in the form specified in 3 above. Multiple versions and versions not submitted exactly in the format as specified in 3 above may be disregarded and you may get a mark of 0 in this instance.

8. NOTE: This is an individual assignment. Any form of copying (including the use of generative AI tools) or sharing of solutions and plagiarism is not allowed. Where it is deemed that students have copied and/or shared each other's work, disciplinary action may follow for all those affected. At the very least, in this instance, ALL students who were deemed to have shared/copied their work will get penalized.