Singapore Electricity Consumption 1

The table below is a **partial** capture of the Monthly Electricity Consumption by public and private dwelling types (GWh) in Singapore for the year 2019.

The complete table is available on the LMS as sgallelectricity_dataset.pdf and as sgallelectricity_dataset.csv.

Month	Public Housing	Private Apts/ Condo	Landed Properties	Others
Jan	343.4	163	86.9	0.8
Feb	356	167.6	89.1	0.8
Mar	340.9	167.8	88.7	0.8
Apr	374.6	183.6	94	0.9
May	385.9	190	93.7	0.9

In this project, your Python program is required to:

- Initialise appropriate lists with the **full** data
- Show four different menu options plus a Quit option.

  Based on the user selection, your program shall
  1. Display the monthly electricity consumptions of all dwelling types in March.
  2. For a user selected dwelling type (e.g., Landed Properties),
     a) display the average electricity consumption of the 4-month periods of Jan to Apr & Sep to Dec.
     b) display the maximum electricity consumption in each of the periods and the month in which it occurred.
  3. For a user selected dwelling type, display the months in which the monthly electricity consumption is at least 6% lower than the annual mean electricity consumption and the electricity consumption of each of those months.
  4. Make the following electricity consumption plots with appropriate labels
     a) Private Apts/Condo, Landed Properties (of each month) vs Month as line plots.
     b) Private Apts/Condo, Landed Properties (of each month) vs Month as a bar chart.

You will be awarded higher marks if you have the following features in your program:

- Retrieve the data from the CSV file and store them into lists
- Use numpy or 2D lists/arrays
- Plot the data with properly labelled titles, labels and legends
- Use functions that you define (and initialise lists for storing data if your program doesn't retrieve them from the CSV file) in a module called data.py