

# Data Visualisation (Assignment)

## Assignment Problems

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Q1. For the following dataset generated using NumPy:

```
np.random.normal(loc=70, scale=10, size=200)
```

- Plot a **histogram** of scores
- Draw a vertical line for the mean & try to interpret the results.

Q2. For the Seaborn **penguins** dataset, do the following:

- Plot **flipper\_length\_mm** vs **body\_mass\_g**
- Color by **species**

Q3. For the Seaborn **tips** dataset, do the following:

- Create a **box plot** of **total\_bill** for each **day**
- Add **hue="sex"**
- Identify which day has the highest median bill
- Comment on outliers

Q4. For the Seaborn **tips** dataset, do the following:

- Create a **scatter plot** of **total\_bill** vs **tip**
- Color points by **sex**
- Use different markers for **smoker**
- Add a title and axis labels
- Analyze: *Do smokers tend to tip differently?*

Q5. For the Seaborn `tips` dataset, do the following:

- Create a pivot table of **average tip**
  - Rows: `day`
  - Columns: `time`
- Plot the pivot table as a heatmap
- Annotate values
- Interpret which day–time combination performs best