

# 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