# Unit 9

# Workbook interpretations

**Exercise 9.1**

For this exercise, I was required to use the percentage table to create a bar chart for the brand preferences in Area 1 and 2. The graph of Area one shows a big preference for the “Other” brand category compared to Brand A and B. The same is true for Area 2. However, the differences between the brands are a lot smaller in Area 2. The underlying message from both of these graphs is that regardless of location people tend to prefer “Other” brand over brand A and B. They ranked brand A the lowest in both areas.

**Exercise 9.2:**

This task involves analysing the frequency distribution of heather species across two different locations using the dataset provided in **Exa 9.2E.xlsx**.

The data reveals striking differences in heather distribution between the two locations. In Location A, heather thrives, appearing abundant in 46.4% of observations and sparse in 39.3%, with only 14.3% absence. This contrasts sharply with Location B, where heather is absent in 45.5% of cases and abundant in just 22.7%. The patterns suggest Location A offers superior growing conditions, possibly due to favourable soil, light, or moisture levels. Location B's high absence rate indicates potential environmental limitations or disturbances. These findings highlight Location A as a priority conservation area, while Location B may require habitat improvements to support heather growth.

**Exercise 9.3:**

This exercise involves comparing weight loss patterns between Diet A and Diet B using relative frequency histograms. The workbook *Exe 9.3B.xlsx* contains Diet A's histogram and partial statistics for Diet B.

This distribution shows weight loss results peaking at 2-4 kg (30% frequency), with declining frequencies for greater losses. The left-skewed pattern indicates most participants achieved moderate losses (2-6 kg, 72% combined), while higher losses (8+ kg) were rare (6%). Notably, 6% of cases showed weight gain (negative values). Compared to Diet A's symmetric distribution, these results suggest: (1) less consistent outcomes, (2) lower effectiveness for significant weight reduction, and (3) greater variability in individual responses. The skewness and negative values imply this diet may work well for some but be ineffective for others, possibly due to adherence or metabolic differences. Direct comparison with Diet A would clarify relative performance.

**Exercise 9.4:**

This exercise involves analysing and comparing brand preferences across two demographic areas using Excel. I will work with the file *Exa 9.1D.xlsx*, which contains percentage frequency data and a pre-existing bar chart for **Area 1**.

The bar chart for Area 2 reveals distinct brand preferences, with Brand A dominating at 50%, significantly outperforming Brand B (20%) and Other brands (30%). This suggests strong brand loyalty or effective marketing for Brand A in this demographic. The preference distribution is highly skewed, with Brand A capturing half of the market share, while Brand B lags behind, and Other brands collectively hold a notable but fragmented portion. Compared to Area 1 (if data shows different trends), this could indicate regional variations in consumer behaviour, potentially influenced by local advertising, product availability, or cultural preferences. Further analysis could explore why Brand A resonates so strongly in Area 2 while other brands struggle to compete.