## Introduction

You are working as a data analyst for a consumer research company. You have conducted some research into food shopping habits within a major supermarket chain and have collected some preliminary data. A data extract has been provided and you will be asked to explore some questions requiring simple analysis on the data.

## Activity

Your dataset is stored in the file "shoppingdata.csv":

> the spend data is in GBP, £,

> the temperature data is in degrees Celsius

> the days of the week start with 1 = Monday.

The questions you have been asked to research are:

1) What is the average spend for a customer visit to a shop?
2) Which day has the highest average spend? And the lowest? Can you show this visually?
3) Is there a correlation between the weather (air temperature) and the amount customers spend? Can you show this as a line graph?
4) How could the data be improved to develop more insights?

You will need to:

- Write appropriate code to load data from the CSV into a data structure
- Write code to extract the average spend
- Write code to display a chart of spend on each day of the week
- Write code to draw a scatter plot to show the temperature and spend data
- Write code to do a regression analysis and/or correlation coefficient to explore the relationship between temperature and spend

## Solution

There is a code solution in Python that can be provided as a separate file, however it should be noted there are lots of different ways to investigate the data, and this does not represent the only solution. The solution provided makes use of NumPy, SciPy and pandas Python libraries.