Q1. If you have any, what are your choices for increasing the comparison between different figures on the same graph?

**A classic bar graph is a great way to compare data**. Plus, there are still ways you can make the design more engaging than your typical Excel chart.

Q2. Can you explain the benefit of compound interest over a higher rate of interest that does not compound after reading this chapter?

Compound interest **makes a sum of money grow at a faster rate than simple interest**, because in addition to earning returns on the money you invest, you also earn returns on those returns at the end of every compounding period, which could be daily, monthly, quarterly or annually.

Q3. What is a histogram, exactly? Name a numpy method for creating such a graph.

numPy.histogram

Q4. If necessary, how do you change the aspect ratios between the X and Y axes?

The method **set\_aspect()** is used to set the aspect ratio. The parameter of this method is a number which is a division of the X-axis with respect to the Y-axis.

Q5. Compare and contrast the three types of array multiplication between two numpy arrays: dot product, outer product, and regular multiplication of two numpy arrays.

Numpy outer() is the function in the numpy module in the python language. It is **used to compute the outer level of products like vectors, arrays, etc**

numpy.dot(vector\_a, vector\_b, out = None) returns the dot product of vectors a and b. It can handle 2D arrays but considers them as matrix and will perform matrix multiplication.

matmul(array a, array b) : returns the matrix product of two arrays.

Q6. Before you buy a home, which numpy function will you use to measure your monthly mortgage payment?

In order to calculate the monthly mortgage payment, you will use the numpy function . **pmt(rate, nper, pv)** where: rate = The periodic (monthly) interest rate.

Q7. Can string data be stored in numpy arrays? If so, list at least one restriction that applies to this data.

The elements of a NumPy array, or simply an array, are usually numbers, but **can also be boolians, strings, or other objects**.