Q1. What are some techniques for increasing the comparison between different figures on the same graph?
To increase the comparison between different figures on the same graph, you can:
- Adjust the scale of the axes.
- Use multiple y-axes.
- Add reference lines or markers.
- Utilize color or pattern differentiation.

Q2. What is the benefit of compound interest over a higher rate of interest that does not compound?
The benefit of compound interest over a higher rate of interest that does not compound is that compound interest allows for exponential growth over time. With compound interest, the interest earned on an initial investment or principal is added back to the principal, and subsequent interest is calculated based on the increased amount. This compounding effect leads to accelerated growth and higher returns compared to a higher rate of interest that does not compound.

Q3. What is a histogram, exactly? Name a numpy method for creating such a graph.
A histogram is a graphical representation of the distribution of data. It consists of a set of bins, where each bin represents a range of values, and the height of each bin represents the frequency or count of data points falling within that range. Numpy provides the method `numpy.histogram()` for creating a histogram graph.

Q4. If necessary, how do you change the aspect ratios between the X and Y axes?
To change the aspect ratios between the X and Y axes, you can modify the `aspect` parameter of the graph. By adjusting the aspect ratio, you can control the proportion between the X and Y axes, making them appear stretched or compressed as desired.

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.
- Dot product: The dot product of two numpy arrays calculates the sum of the element-wise multiplication of corresponding elements. It results in a single scalar value.
- Outer product: The outer product of two numpy arrays computes the cross product of every combination of elements from the two arrays, resulting in a new array with a shape that is the product of the shapes of the input arrays.
- Regular multiplication: The regular multiplication of two numpy arrays performs element-wise multiplication between corresponding elements of the arrays, resulting in a new array with the same shape as the input arrays.

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

To calculate the monthly mortgage payment before buying a home, you can use the numpy function `numpy.pmt()`. This function helps determine the fixed monthly payment required to repay a loan or mortgage over a specified term.

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

Yes, string data can be stored in numpy arrays. However, it is important to note that numpy arrays have a fixed size, and all elements within an array must have the same length. Therefore, when storing string data in a numpy array, it is necessary to ensure that all strings have the same length or to allocate a sufficient length to accommodate the longest string in the array.