Differences between lists in python, series in pandas and arrays in NumPy.

* Elements in NumPy arrays are accessed by their index or integer position (starting from zero for the first element).

Arrays are needed to be declared.

Arrays can store data very compactly and are more efficient for storing large number of data.

Arrays are great for numerical operations.

* Panda series is more flexible as you can define your own labelled index to index and access elements. You can also use letters instead of numbers, or number an array in apt order.

Aligning data from different series and matching their labels with the series objects is more efficient than using arrays in NumPy or Nd arrays.

* Lists in python does not need any declaration as it is a part of its syntax.

Lists are ordered-items appear in a specific order.

Lists cannot directly handle mathematical operations.

Lists need not be unique-Duplications of items are possible.