**Assignment 4:**

1. **What exactly is []?**

**Ans.** The empty list value, which is a list value that contains no items. This is similar to how '' is the empty string value.

1. **In a list of values stored in a variable called spam, how would you assign the value 'hello' as the third value? (Assume [2, 4, 6, 8, 10] are in spam.)**

**Ans.**

1. **What is the value of spam[int(int('3' \* 2) / 11)]?**

**Ans. 0**

1. **What is the value of spam[-1]?**

**Ans.** The span of the rows of a matrix is called the row space of the matrix. The dimension of the row space is the rank of the matrix.

1. **What is the value of spam[:2]?**

**Ans.** [3.14, 'cat,' 11]

1. **What is the value of bacon.index('cat')?**

**Ans**. 99

1. **How does bacon.append(99) change the look of the list value in bacon?**

**Ans.**  bacon contains the list [3.14, 'cat', 11, 'cat', True].

1. **How does bacon.remove('cat') change the look of the list in bacon**?

**Ans.** 100

1. **What are the list concatenation and list replication operators?**

**Ans.** The concatenation operator "{ , }" combines (concatenates) the bits of two or more data objects. The objects may be scalar (single bit) or vectored (muliple bit). Mutiple concatenations may be performed with a constant prefix and is known as replication.

1. **What is difference between the list methods append() and insert()?**

**Ans.** The only difference between append() and insert() is that insert function allows usto add a specific element at a specified index of the list unlike append() where we can add the element only at end of the list.

1. **What are the two methods for removing items from a list?**

**Ans**.  remove(), pop() and clear() .

1. **Describe how list values and string values are identical**.

**Ans**. Lists are mutable but Strings are immutable. Secondly, elements of a list can be of different types whereas a String only contains characters that are all of String type.

1. **What's the difference between tuples and lists?**

**Ans.**  while the tuples are immutable objects the lists are mutable. This means that tuples cannot be changed while the lists can be modified. Tuples are more memory efficient than the lists.

1. . **How do you type a tuple value that only contains the integer 42?**

**Ans. (42,)** (The trailing comma is mandatory.)