Session 4: Lists

1. Syntax for Lists

```
[1]: li=['China','Italy','Spain']

[2]: li[0]

'China'

[3]: li[1]

'Italy'

[4]: len(li)

3

[5]: li.append('Iran')

[6]: li

['China', 'Italy', 'Spain', 'Iran']

[7]: li[1:3]

['Italy', 'Spain']

[8]: li[-1]

'Iran'

[9]: li[1:-1]

['Italy', 'Spain']

[10]: 'US' in li

False

[11]: 'US' not in li

True
```

Q1. Basic Database of Epidemic Cases in the US

Working with your discussion group, create the backbone of a data management system for a new epidemic in the US. Concretely speaking, you should write the following three functions.

a) A function called `addCase` with two inputs:

- name: the name of the patient.
- state: the state the person is from.

The function should add this entry to the database.

b) A function called `retrieveCase` with one input:

- index: a number associated with the case. The first case is given index 0, the second case index 1, etc.

The function should print a sentence specifying the case index, the name of the patient, and the state. (See sample outputs below.)

c) A function called `totalCases` with no input. The function returns an integer representing the total number of cases so far.

See the test code below for sample outputs.

```
[24]:
```

```
[25]: addCase('Alice','New York')
      addCase('Bob','California')
      addCase('Jack','New York')
      totalCases()
```

```
3
```

```
[26]: retrieveCase(0)
```

```
Case 0 is Alice in New York.
```

```
[27]: retrieveCase(1)
```

```
Case 1 is Bob in California.
```

```
[28]: retrieveCase(2)
```

```
Case 2 is Jack in New York.
```

```
[29]: retrieveCase(3)
```

```
Invalid index. Need to be between 0 and 3.
```