**CSF 2113 Lab 2.1: Containers (Lists)**

**Using Lists in Python**

1. **Creation/Initialization**

What is the output of following python code?

|  |
| --- |
|  |
| [6, 2, 8] <class 'list'>  [3.2, 5.4, 2.0] <class 'list'>  ['Ali', 'Mohammed', 'Sualeh'] <class 'list'>  [2.5, 2, 'UAE'] <class 'list'>  [2.5, 3, 'Sharjah', [3, 5, 6]] <class 'list'> |

1. **Indexing**

Write down the output of following code segment:

|  |
| --- |
|  |
| 23  Ali  z  3.14  [8, 3, 2.3]  12  **---------------------------------------------------------------------------**  **IndexError** Traceback (most recent call last)  **<ipython-input-7-1b55286e292e>** in <module>  6 print **(**mylist**[7])**  7 print **(**mylist**[8])**  **----> 8** print **(**mylist**[9])**  **IndexError**: list index out of range |

1. **Slicing**

Write down the output of following code segment:

|  |
| --- |
|  |
| [23, 7.5, 'Ali', [3, 5]]  [23, 7.5, 'Ali', [3, 5], 'z']  ['z', 56, 3.14, [8, 3, 2.3], 12]  [3.14, [8, 3, 2.3], 12]  [[8, 3, 2.3], 12]  Negative  [3.14, [8, 3, 2.3]]  [3.14, [8, 3, 2.3], 12]  ['Ali', [3, 5], 'z', 56]  [23, 7.5, 'Ali', [3, 5], 'z']  [23, 7.5, 'Ali']  [23, 7.5]  [] |

**List Mutability**

1. **Changing Value of the existing element**

What is the output of following python code?

|  |
| --- |
|  |
| ['Fatima', 7.5, 'Ali', [3, 5], 'z']  ['Fatima', 7.5, 'Ali', [3, 5], 4.3]  ['Fatima', 7.5, 8.5, [3, 5], 4.3]  ['Fatima', [8.5, [3, 5]], 8.5, [3, 5], 4.3] |

1. **Appending, Inserting and Removing elements**

Write down the output of following code segment:

|  |
| --- |
|  |
| [6, 5, 8]  [6, 5, 8, 2]  [6, 5, 8, 2, 6, 5]  [6, 5, 8, 2, 6, 5, [12, 13]]  [6, 5, 8, 7.5, 2, 6, 5, [12, 13]]  [[3, 4], 6, 5, 8, 7.5, 2, 6, 5, [12, 13]]  [[3, 4], 6, 8, 7.5, 2, 6, 5, [12, 13]]  [[3, 4], 8, 7.5, 2, 6, 5, [12, 13]] |

1. **Sorting and Reversing**

Write down the output of following code segment:

|  |
| --- |
|  |
| [3, 8, 9, 2, 6]  [6, 2, 9, 8, 3]  [3, 8, 9, 2, 6] |
|  |
| [2, 3, 6, 8, 9]  [6, 2, 9, 8, 3]  [2, 3, 6, 8, 9]  [9, 8, 6, 3, 2] |

**Searching in List**

**1. Searching in List**

What is the output of following python code?

|  |
| --- |
|  |
| True  False  True  True  False |

**Creating and populating list**

**1. Creating list by different methods**

What is the output of following python code?

|  |
| --- |
|  |
| [] 0  [3] 1  [3, 31] 2  [3, 31, 9] 3 |
|  |
| [] 0  [6] 1  [6, 9] 2  [6, 9, 3, 10] 4 |
|  |
| ['Ali', 'Faisal', 'Ahmed']  ['Ali', 'Faisal', 'Ahmed', 'Noora']  ['6', '5', '2', '3'] |
|  |
| [0, 0, 0] 3  [0, 0, 0, [3, 2]] 4  [0, 0, 0, [3, 2], 0, 0, 0, [3, 2]] 8 |

**End of Lab**