

Data Structures and Algorithms Test 3

Tuesday July 26, 2022

Time: 11:00 – 12:00 HRS

Attempt all Questions

1. What are the contents of the list `lst` after the following code is executed?

```
lst = [x+y for x in ['a','the','one']  
        for y in [' car',' fish']]
```

2. Consider the following `mysterySort()` function:

```
def mysterySort(lst):  
    for i in range(len(lst)-1):  
        k = i  
        for j in range(i, len(lst)):  
            if lst[j] < lst[k]:  
                k = j  
        lst[i], lst[k] = lst[k], lst[i]  
    print(lst)
```

What is the Big-O runtime complexity of `mysterySort()`, when called with an input list of length N ?

3. a) Differentiate between stack and queue data structures.
b) Write a python application that implements any one search algorithm.

End! Happy Coding!