

X



(<https://swayam.gov.in>)



([https://swayam.gov.in/nc\\_details/NPTEL](https://swayam.gov.in/nc_details/NPTEL))

[gauravsharma727545@gmail.com](mailto:gauravsharma727545@gmail.com) ▾

## **NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » Programming, Data Structures And Algorithms Using Python (course)**

[Announcements \(announcements\)](#)

**About the Course ([https://swayam.gov.in/nd1\\_noc19\\_cs40/preview](https://swayam.gov.in/nd1_noc19_cs40/preview))**    [Ask a Question \(forum\)](#)

[Progress \(student/home\)](#)    [Mentor \(student/mentor\)](#)

---

# Online Test 2, Question 2

**Due on 2019-09-26, 22:00 IST**

Course  
outline

---

**How to access  
the portal**

---

**Week 1:  
Introduction**

---

**Week 1 Quiz**

---

**Week 2:  
Basics of  
Python**

---

**Week 2 Quiz**

---

**Week 2  
Programming  
Assignment**

---

**Week 3: Lists,  
inductive  
function**

definitions,  
sorting

Week 3  
Programming  
Assignment

Week 4:  
Sorting,  
Tuples,  
Dictionaries,  
Passing  
Functions, List  
Comprehension

Week 4 Quiz

Week 4  
Programming  
Assignment

Week 5:  
Exception  
handling,  
input/output,  
file handling,  
string  
processing

Week 5  
Programming  
Assignment

Week 6:  
Backtracking,  
scope, data  
structures;  
stacks,  
queues and  
heaps

Week 6 Quiz

Week 7:  
Classes,  
objects and  
user defined  
datatypes

Week 7 Quiz

# Instructions

This is the second of two online programming tests.

- These tests account for 25% of the total evaluation for the course.
- The duration of the test is 2 hours.
- The first test was from 9:30-11:30 am and the second is from 8:00-10:00 pm, on Thursday, 26 September 2019.
- You can attempt either of the tests. The best score will be counted..

## Question 2

Here is a function `stablesortbad` that takes a list of pairs of integers as input and sorts them by the second coordinate in each pair. A *stable* sort preserves the order of pairs that have an equal second coordinate. This is not a stable sort. Provide an input for which `stablesortbad` produces an output that is not stably sorted. Your input should be a list of pairs of integers of the form `[(i1,j1),(i2,j2),...,(in,jn)]`.

```
def stablesortbad(l):  
    for j in range(len(l)-1):  
        for i in range(len(l)-1):  
            if l[i][1] >= l[i+1][1]:  
                (l[i],l[i+1]) = (l[i+1],l[i])  
    return(l)
```

Open up the code submission box below and write your test case where you would normally paste your code. Your input should be a list of pairs of integers of the form `[(i1,j1),(i2,j2),...,(in,jn)]`.

Private Test cases used for  
evaluation

Input	Expected Output	Actual Output	Status
Test Case 1	True\n	True\n	Pass ed

Due Date Exceeded.  
1 out of 1 tests passed.  
You scored 100.0/100.

Your last recorded submission was :

```
1 myinput = ''  
2 [(1,2),(3,1),(7,2),(0,4),(3,2)]  
3 ''  
4  
5 def stablesortbad(l):  
6     for j in range(len(l)-1):
```

**Week 8:  
Dynamic  
programming,  
wrap-up**

**Week 8  
Programming  
Assignment**

**Download  
videos**

**Text  
Transcripts**

**Online  
Programming  
Test - Sample**

**Online  
Programming  
Test 1, 26 Sep  
2019, 09:30-  
11:30**

**Online  
Programming  
Test 2, 26 Sep  
2019, 20:00-  
22:00**

- Online Test 2,  
Question 1  
(/noc19\_cs40/progassignment?  
name=121)
- Online Test 2,  
Question 2  
(/noc19\_cs40/progassignment?  
name=122)
- Online Test 2,  
Question 3  
(/noc19\_cs40/progassignment?  
name=123)
- Online Test 2,  
Question 4  
(/noc19\_cs40/progassignment?  
name=124)
- Online Test 2,  
Question 5

```
7     for i in range(len(l)-1):
8         if l[i][1] >= l[i+1][1]:
9             (l[i],l[i+1]) = (l[i+1],l[i])
10    return(l)
11
12    def stablesortgood(l):
13        for j in range(len(l)-1):
14            for i in range(len(l)-1):
15                if l[i][1] > l[i+1][1]:
16                    (l[i],l[i+1]) = (l[i+1],l[i])
17            return(l)
18
19    import ast
20
21    try:
22        myarg = ast.literal_eval(myinput.strip())
23    except:
24        print(False)
25    else:
26        try:
27            print(stablesortbad(myarg[:]) != stablesortgood(myarg[:]))
28        except:
29            print(False)
30
```

(/noc19\_cs40/progassignment?  
name=125)

● Online Test 2,  
Question 6  
(/noc19\_cs40/progassignment?  
name=126)

● Online Test 2,  
Question 7  
(/noc19\_cs40/progassignment?  
name=127)

● Online Test 2,  
Question 8  
(/noc19\_cs40/progassignment?  
name=128)

● Online  
Programming  
Test 2, 26 Sep  
2019, 20:00-  
22:00 (unit?  
unit=111&lesson=129)