Online Test 1, Question 2

Due on 2021-03-09, 12:00 IST

Question 2

Here is an implementation of `quicksort`, which splits the input list according the pivot value, sorts each part and arranges the sorted parts with the pivot in between to give the final sorted sequence. There is a small error in the implementation. Provide an input list for which this version of `quicksort` produces an incorrect output.

```
def quicksortbad(l):
  if len(l) < 2:
    return(l)
  else:
    pivot = l[0]
    smaller = [l[j] for j in range(1,len(l)) if l[j] < pivot]
    bigger = [l[j] for j in range(1,len(l)) if l[j] > pivot]
    rearrange = quicksortbad(smaller) + [pivot] + quicksortbad(bigger)
    return(rearrange)
```

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 numbers.

Sample Test Cases

	Input	Output
Test Case 1		`True`
Test Case 2		`True`

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment.

Sample solutions (Provided by instructor)

```
myinput='''
[1,1,2]
'''

def quicksortbad(l):
  if len(l) < 2:
    return(l)
  else:
    pivot = l[0]
    smaller = [l[j] for j in range(1,len(l)) if l[j] < pivot]
    bigger = [l[j] for j in range(1,len(l)) if l[j] > pivot]
    rearrange = quicksortbad(smaller) + [pivot] + quicksortbad(bigger)
    return(rearrange)

def quicksortgood(l):
  if len(l) < 2:
    return(l)
  else:
    pivot = l[0]
    smaller = [l[j] for j in range(1,len(l)) if l[j] <= pivot]
    bigger = [l[j] for j in range(1,len(l)) if l[j] > pivot]
    rearrange = quicksortgood(smaller) + [pivot] + quicksortgood(bigger)
    return(rearrange)

import ast

try:
   myarg =  ast.literal_eval(myinput.strip())
except:
   print(False)
else:
  try:
     print(quicksortbad(myarg) != quicksortgood(myarg))
  except:
     print(False)

```

- **Week 7: Classes, objects and user defined datatypes ()**
- **Week 7 Quiz ()**
- **Week 8: Dynamic programming, wrap-up ()**
- **Week 8 Programming Assignment ()**
- **Text Transcripts ()**
- **Books ()**
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- **Online Programming Test - Sample ()**
- **Online Programming Test 1, 01 Dec 2020, 10:00-12:00 ()**
- **Online Programming Test 2, 01 Dec 2020, 20:00-22:00 ()**
- **Online Programming Test 1, 09 Mar 2021, 10:00-12:00 ()**

- Online Test 1, Question 1 (/noc20_cs26/progassignment?name=148)
- **Online Test 1, Question 2 (/noc20_cs26/progassignment?name=149)**
- Online Test 1, Question 3 (/noc20_cs26/progassignment?name=151)
- Online Test 1, Question 4 (/noc20_cs26/progassignment?name=152)
- Online Test 1, Question 5 (/noc20_cs26/progassignment?name=155)
- Online Test 1, Question 6 (/noc20_cs26/progassignment?name=156)
- Online Test 1, Question 7 (/noc20_cs26/progassignment?name=157)
- Online Test 1, Question 8 (/noc20_cs26/progassignment?name=158)

Online Programming Test 2, 09 Mar 2021, 20:00-22:00 ()