Online Test 2, Question 4

Due on 2021-03-09, 22:00 IST

Question 4

Recall that the positions in a list of length n are 0,1,…,n-1. We want to write a function `mod3pos(l)` that returns the elements at all positions in `l` that are divisible by 3. In other words, the function should return the list `[l[0],l[3],...]`. For instance `mod3pos([]) == []`, `mod3pos([7]) == [7]`, `mod3pos([8,11,8,11]) == [8,11]` and `mod3pos([19,3,44,44,3,19,17,23]) == [19,44,17]`. A recursive definition of `mod3pos` is given below. You have to fill in the missing argument for the recursive call.

```
def mod3pos(l):
  if len(l) == 0:
    return([])
  else:
    return(...)
```

Open up the code submission box below and fill in the missing argument for the recursive call.

Sample Test Cases

	Input	Output
Test Case 1	`mod3pos([0,1,2,3,4,5,6,7,8,9])`	`[0, 3, 6, 9]`
Test Case 2	`mod3pos([19,23,14,11,12,17,6,4,23,44,55,77])`	`[19, 11, 6,`
Test Case 3	`mod3pos([2])`	`[2]`

Test Case 4	`mod3pos([0,1,2])`	`[0]`
Test Case 5	`mod3pos([8,11,8,11])`	`[8, 11]`
Test Case 6	`mod3pos([19,3,44,44,3,19,17,23])`	`[19, 44, 17]`

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.
Sample solutions (Provided by instructor)

```
1  def mod3pos(l):
2    if len(l) == 0:
3      return([])
4    else:
5      return(
6         # Complete the recursive call below this line
7          [l[0]] + mod3pos(l[3:])
8         # Complete the recursive call above this line
9      )
10
11 import ast
12
13 def tolist(inp):
14   inp = ast.literal_eval(inp)
15   return(inp)
16
17 fncall = input()
18 lparen = fncall.find("(")
19 rparen = fncall.rfind(")")
20 fname = fncall[:lparen]
21 farg = fncall[lparen+1:rparen]
22
23 if fname == "mod3pos":
24   arg = tolist(farg)
25   print(mod3pos(arg))
26
```

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