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



Course outline

How does an NPTEL online course work? ()

Week 1 : Introduction ()

Week 1 Quiz ()

Week 2: Basics of Python ()

Week 2 Quiz ()

Week 2 Programming Assignment ()

Week 3: Lists, inductive

Online Test 2, Question 5

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

Question 5

A positive integer is said to be square free, if it is not divisible by any square integer strictly greater than 1. For instance, 5, 10 and 21 are square free, while 4 and 48 are not, since 4 is divisible by 2^2 and 48 is divisible by 4^2 .

Write a Python function `squarefree(n)` that takes a positive integer argument and returns True if the integer is square free, and False otherwise.

Sample Test Cases

	Input	Output
Test Case 1	<code>squarefree(125)</code>	False
Test Case 2	<code>squarefree(57768232)</code>	False
Test Case 3	<code>squarefree(101)</code>	True
Test Case 4	<code>squarefree(1001)</code>	True
Test Case 5	<code>squarefree(5)</code>	True
Test Case 6	<code>squarefree(48)</code>	False

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 import math
```

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 ()

```
2 def squarefree(n):
3     for i in range(2,1+math.ceil(math.sqrt(n))):
4         if n%(i*i) == 0:
5             return(False)
6         return(True)
7 import ast
8
9 def toint(inp):
10     inp = ast.literal_eval(inp)
11     return (inp)
12
13 fncall = input()
14 lparen = fncall.find("(")
15 rparen = fncall.rfind(")")
16 fname = fncall[:lparen]
17 farg = fncall[lparen+1:rparen]
18
19 if fname == "squarefree":
20     arg = toint(farg)
21     print(squarefree(arg))
22
```

**Week 7:
Classes,
objects and
user defined
datatypes ()**

**Week 7 Quiz
()**

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

**Week 8
Programming
Assignment
()**

**Text
Transcripts ()**

Books ()

**Download
Videos ()**

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

- ☐ Online Test 2,
Question 1
(/noc20_cs26/progassignment?
name=160)
- ☐ Online Test 2,
Question 2
(/noc20_cs26/progassignment?
name=161)
- ☐ Online Test 2,
Question 3
(/noc20_cs26/progassignment?
name=162)
- ☐ Online Test 2,
Question 4
(/noc20_cs26/progassignment?
name=163)
- ☐ **Online Test 2,
Question 5
(/noc20_cs26/progassignment?
name=164)**
- ☐ Online Test 2,
Question 6
(/noc20_cs26/progassignment?
name=165)
- ☐ Online Test 2,
Question 7
(/noc20_cs26/progassignment?
name=166)
- ☐ Online Test 2,
Question 8
(/noc20_cs26/progassignment?
name=167)