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 1, Question 5

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

Question 5

A positive integer n is a sum of three cubes if $n = i^3 + j^3 + k^3$ for integers i,j,k such that $i \geq 1$, $j \geq 1$ and $k \geq 1$. For instance, 10 is a sum of three cubes because $10 = 1^3 + 1^3 + 2^3$, and so is 36 ($1^3 + 2^3 + 3^3$). On the other hand, 4 and 11 are not sums of three cubes.

Write a Python function `sum3cubes(n)` that takes a positive integer argument and returns `True` if the integer is a sum of three cubes, and `False` otherwise.

Sample Test Cases

	Input	Output
Test Case 1	`sum3cubes(66)`	`True`
Test Case 2	`sum3cubes(68)`	`False`
Test Case 3	`sum3cubes(80)`	`True`
Test Case 4	`sum3cubes(90)`	`False`
Test Case 5	`sum3cubes(92)`	`True`
Test Case 6	`sum3cubes(99)`	`True`
Test Case 7	`sum3cubes(3)`	`True`
Test Case 8	`sum3cubes(4)`	`False`

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 ()

Test Case 9	`sum3cubes(10)`	`True`
Test Case 10	`sum3cubes(11)`	`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)

```
def cube(n):
    for i in range(1,n+1):
        if n == i**3:
            return(True)
    return(False)

def sum3cubes(n):
    for i in range(1,n-1):
        for j in range (1,n-i):
            k = n - (i+j)
            if cube(i) and cube(j) and cube(k):
                return(True)
    return(False)
import ast

def toint(inp):
  inp = ast.literal_eval(inp)
  return (inp)

fncall = input()
lparen = fncall.find("(")
rparen = fncall.rfind(")")
fname = fncall[:lparen]
farg = fncall[lparen+1:rparen]

if fname == "sum3cubes":
  arg = toint(farg)
  print(sum3cubes(arg))


```

- **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 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 ()