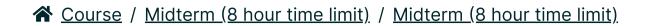


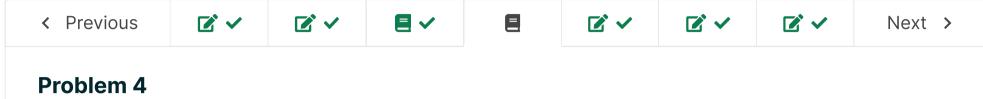
<u>Help</u> shengtatng **→**



()

You are taking "Midterm (8 hour time limit)" as a timed exam. Show more





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Quiz due Nov 23, 2022 07:30 +08

Problem 4

20/20 points (graded)

Write a function that meets the following specification. Hint: there exists a greedy algorithm that provides an optimal solution to this problem.

```
def solve(s):
    """
s: positive integer, what the sum should add up to
Solves the following optimization problem:
        x1 + x2 + x3 + x4 is minimized
        subject to the constraint x1*25 + x2*10 + x3*5 + x4 = s
        and that x1, x2, x3, x4 are non-negative integers.
Returns a list of the coefficients x1, x2, x3, x4 in that order
    """
```

You are not allowed to import anything. Do not leave any debugging print stataments. Click "See full output" to see the test cases passed/failed. Paste only the solve function and any helper functions you made for yourself (if any).

```
1 # Paste your code here
2 def solve(s):
      x1, x2, x3, x4 = 0, 0, 0, 0
4
      while s != 0:
5
          if s > x1:
6
              x1 = s // 25
7
             s = s \% 25
8
          if s > x2:
9
              x2 = s // 10
10
              s = s \% 10
11
          if s > x3:
12
              x3 = s // 5
13
              s = s \% 5
14
          if s < 5:
              x4 = s
```

Press ESC then TAB or click outside of the code editor to exit

Correct

Test results

CORRECT			<u>See full output</u>
CORRECT			See full output
Submit You have used 1 of 10 attempts			
✓ Correct (20/20 points)			
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