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Problem 4

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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 statements. 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):
3     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:
15            x4 = s
```

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

Correct

Test results

CORRECT

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