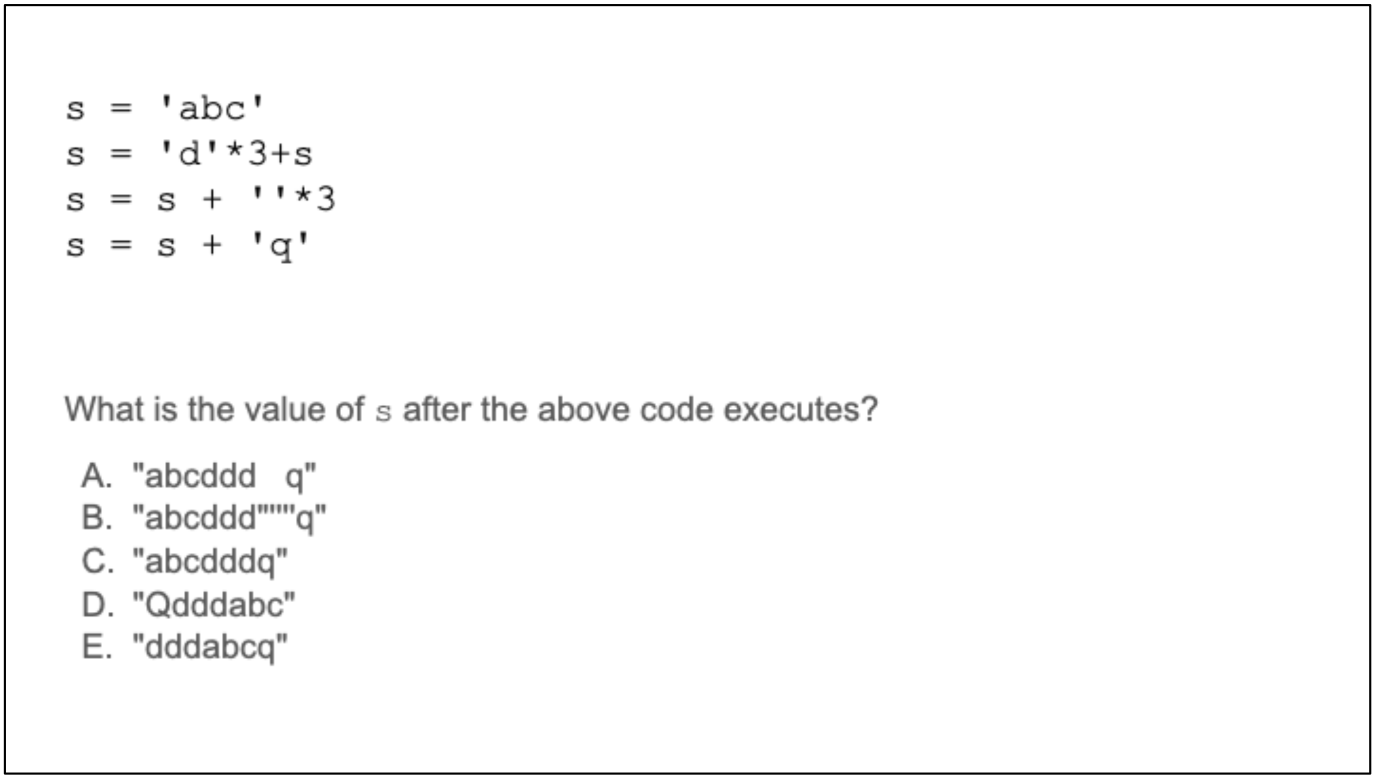
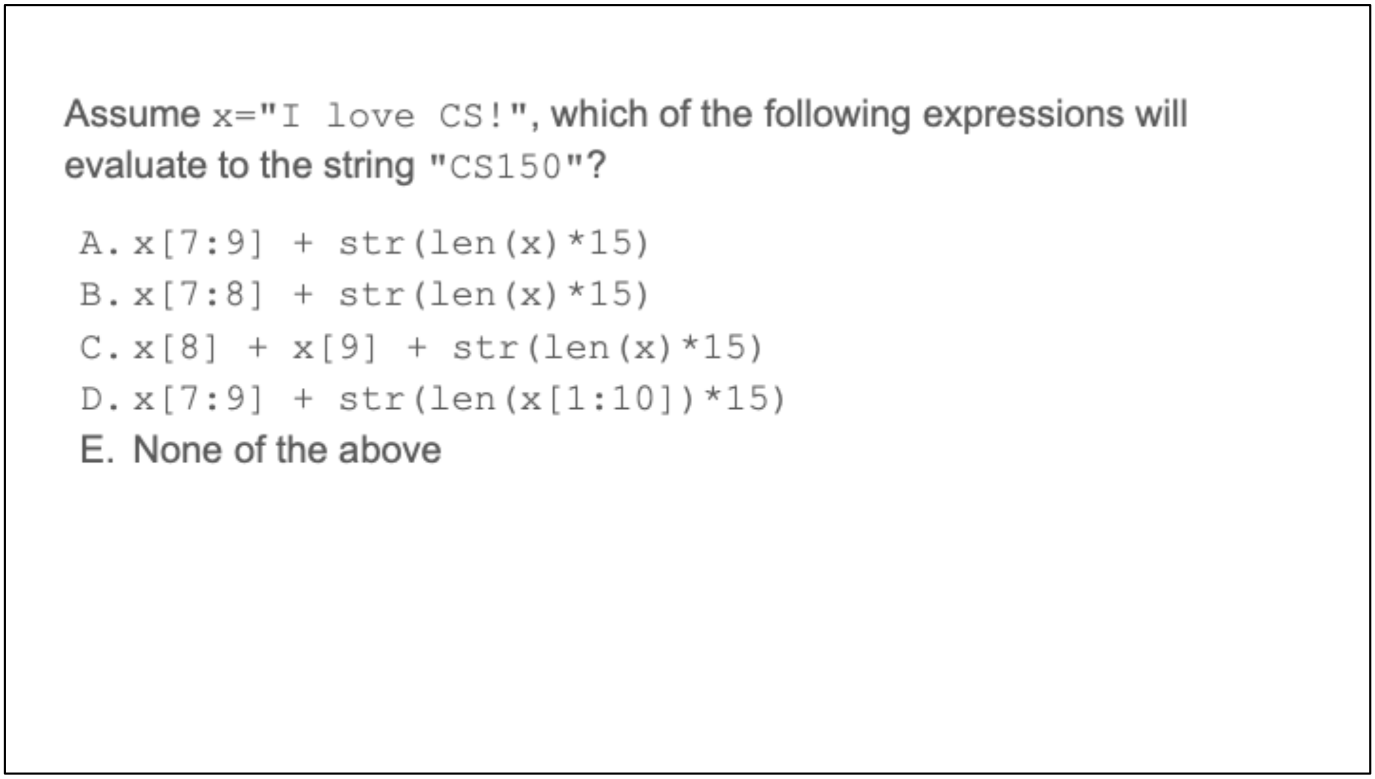


```
s = 'abc'
s = 'd'*3+s
s = s + ''*3
s = s + 'q'
```

What is the value of `s` after the above code executes?

A. "abcddd   q"
B. "abcddd"""q"
C. "abcdddq"
D. "Qdddabc"
E. "dddabcq"

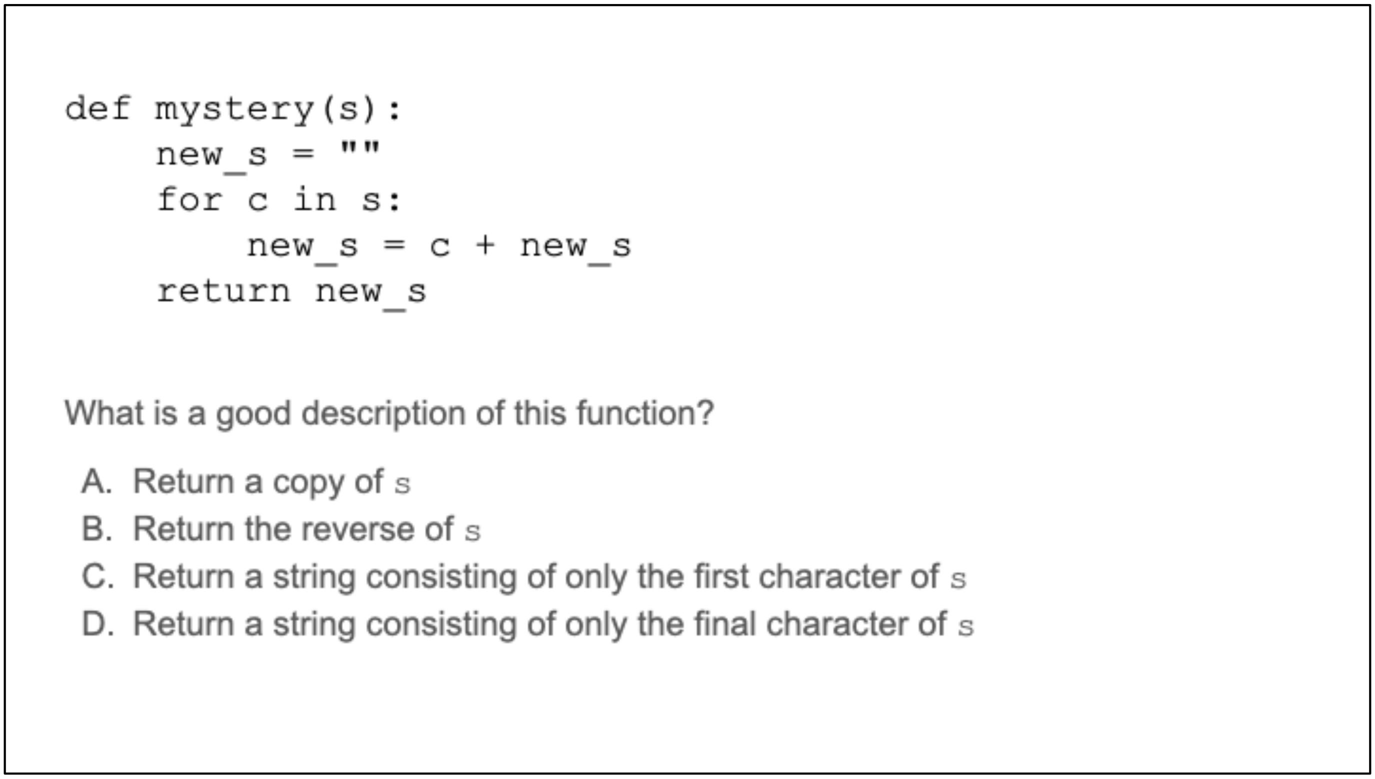
Answer: E
Recall that ‘’ is not a single double quote, that is invalid. Instead it is the empty string.
Thus these expressions are the same as:
s = ‘abc’
s = ‘ddd’ + s
s = s + ‘’
s = s + ‘q’
or ‘dddabcq’



Assume x="I love CS!", which of the following expressions will evaluate to the string "CS150"?

A. x[7:9] + str(len(x)*15)
B. x[7:8] + str(len(x)*15)
C. x[8] + x[9] + str(len(x)*15)
D. x[7:9] + str(len(x[1:10])*15)
E. None of the above

Answer: A
The first operand to the plus, concatenation, operator, “slices” out “CS”, while the second operand evaluates to `str(10*15)`or “150”. B evaluates to “C150” (recall slice is an exclusive end), C to “S!150” (recall indexing starts at 0), and D is “CS135”, because len(x[1:10]) is 9.

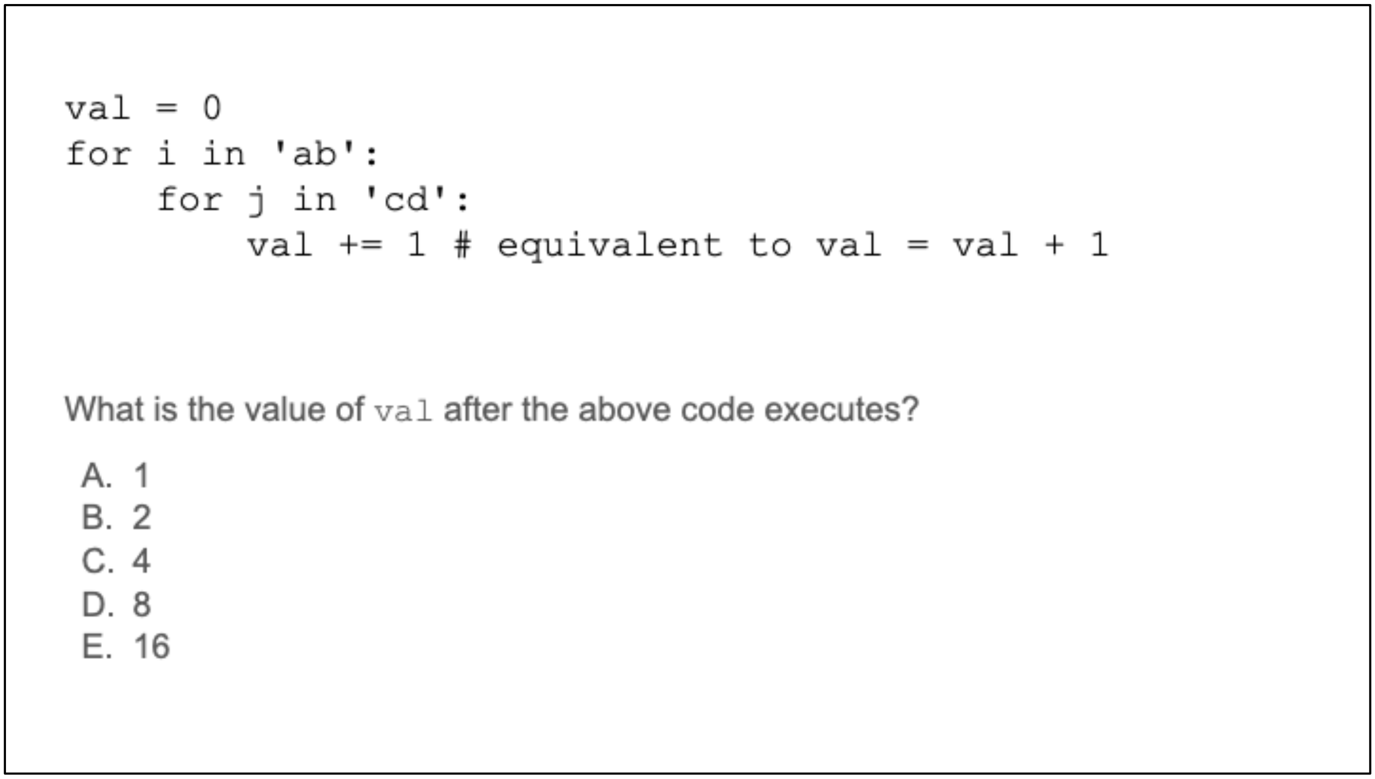


```
def mystery(s):
    new_s = ""
    for c in s:
        new_s = c + new_s
    return new_s
```

What is a good description of this function?

A. Return a copy of `s`
B. Return the reverse of `s`
C. Return a string consisting of only the first character of `s`
D. Return a string consisting of only the final character of `s`

Answer: B
Since we build up the new string, new_s, by prepending, we reverse the string

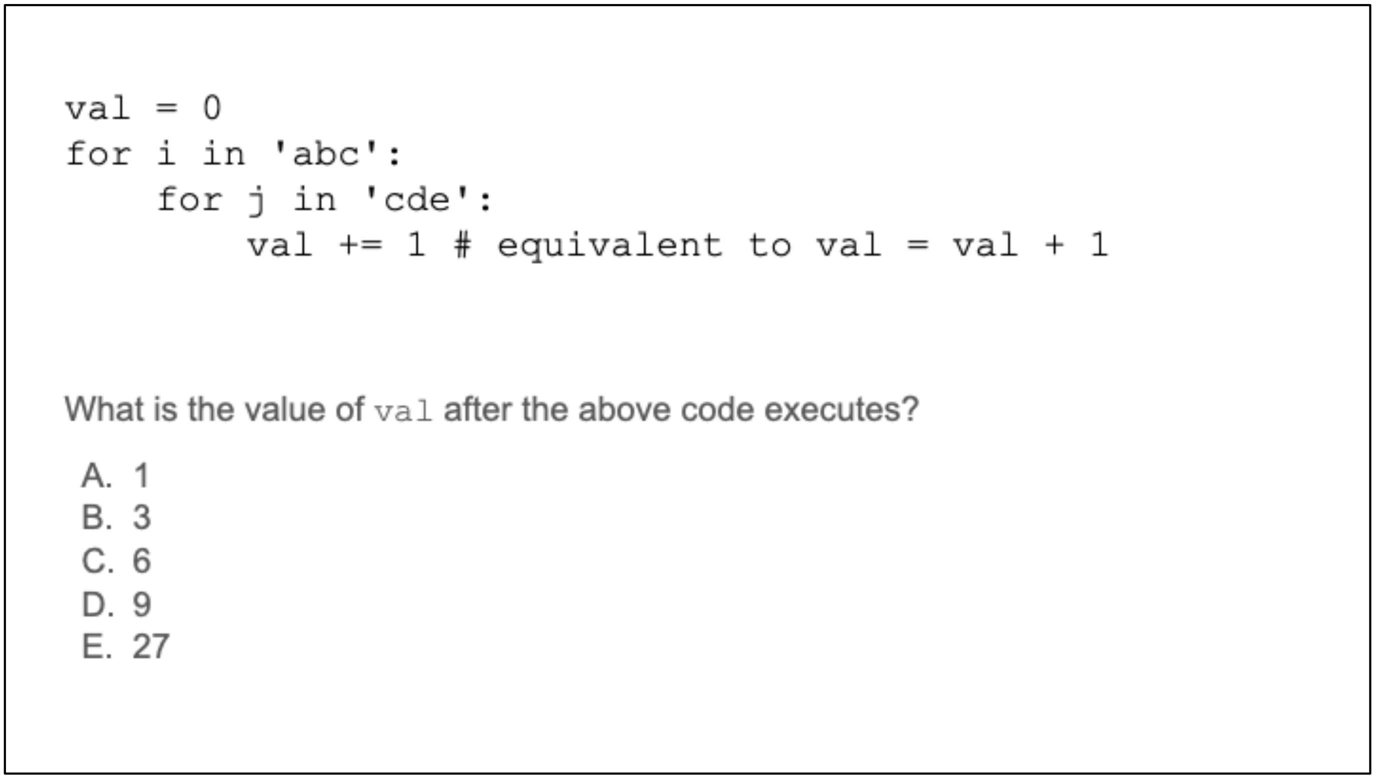


```
val = 0
for i in 'ab':
    for j in 'cd':
        val += 1 # equivalent to val = val + 1
```

What is the value of `val` after the above code executes?

A. 1
B. 2
C. 4
D. 8
E. 16

Answer: C
There are 2 characters, so each loop will have 2 iterations, and thus we will add 1 to val 4 times (since loops are nested)



```
val = 0
for i in 'abc':
    for j in 'cde':
        val += 1 # equivalent to val = val + 1
```

What is the value of `val` after the above code executes?

A. 1
B. 3
C. 6
D. 9
E. 27

Answer: D
There are 3 characters, so each loop will have 3 iterations, and thus we will add 1 to val 9 times (since loops are nested)