Question 1 (1 point)

If the **debug** button (red bug) is clicked for this program in Wing, and then the **step over** button is clicked, what will be the line number of the next line of code the debugger will highlight to be executed?

Provide your answer as the **line number only** using the line numbers displayed on the left side of the image.

```
def sum(n:int) -> int:
 2
 3
         sums of the values from 1 to n inclusive and returns sum
4
         Precondition: n>0
5
        >>> sum(1)
6
         1
 7
        >>> sum(4)
8
         10
9
10
         sum = 0
11
         for num in range(1,n+1):
12
             sum += num
13
         return sum
14
15
    def print_sum(num:int) -> None:
16
         sums the values 1 to n and prints message to the screen
17
18
         >>> print_sum(1)
19
         sum of 1 to 1 : 1
        >>> print_sum(5)
20
21
         sum of 1 to 5 : 15
22
         if num<1:
23
24
             print('not a valid input')
25
         else:
26
             result = sum(num)
27
             print('sum of 1 to', num, ':', result)
28
29
30
    n = 0
31
    print_sum(n)
32
    n = 5
33
    print_sum(n)
34
```



Question 2 (1 point)

If the **debug** button (red bug) is clicked for this program in Wing, and then the **step into** button is clicked, what will be the line number of the next line of code the debugger will highlight to be executed?

Provide your answer as the **line number only** using the line numbers displayed on the left side of the image.

```
1
    def sum(n:int) -> int:
 2
3
         sums of the values from 1 to n inclusive and returns sum
4
         Precondition: n>0
5
        >>> sum(1)
6
 7
        >>> sum(4)
8
         10
9
         11 11 11
10
         sum = 0
11
         for num in range(1,n+1):
12
             sum += num
13
         return sum
14
    def print_sum(num:int) -> None:
15
16
17
         sums the values 1 to n and prints message to the screen
18
        >>> print_sum(1)
19
         sum of 1 to 1:1
20
        >>> print_sum(5)
21
        sum of 1 to 5 : 15
22
23
         if num<1:
24
             print('not a valid input')
25
         else:
26
             result = sum(num)
             print('sum of 1 to', num, ':', result)
27
28
29
30
    n = 0
31
    print_sum(n)
32
    n = 5
    print_sum(n)
33
34
```



Question 3 (1 point)

If the **debug** button (red bug) is clicked for this program in Wing, and then the **debug** button (red bug) is immediately clicked again, what will be the line number of the next line of code the debugger will highlight?

Provide your answer as the **line number only** using the line numbers displayed on the left side of the image.

```
1
        sum(n:int) -> int:
 2
 3
        sums of the values from 1 to n inclusive and returns sum
        Precondition: n>0
4
        >>> sum(1)
 5
 6
        1
 7
        >>> sum(4)
8
        10
        11 11 11
9
10
        sum = 0
11
         for num in range(1,n+1):
12
             sum += num
13
        return sum
14
15
    def print_sum(num:int) -> None:
16
17
        sums the values 1 to n and prints message to the screen
18
        >>> print_sum(1)
19
        sum of 1 to 1:1
20
        >>> print_sum(5)
        sum of 1 to 5 : 15
21
22
23
        if num<1:
24
             print('not a valid input')
25
        else:
26
             result = sum(num)
27
             print('sum of 1 to', num, ':', result)
28
29
30
    n = 0
31
    print_sum(n)
32
    n = 5
    print_sum(n)
33
```



Question 4 (1 point)

```
for outer in range(3):
    for inner in range(2):
        print(inner, end=' ')
        print(outer)
```

Question 5 (1 point)

Assuming no preceding code has been executed, what is the output of the following code?

```
for outer in range(3):
    for inner in range(2):
        print(inner, end=' ')
    print(outer)
```

0 1 0 1 0 1 2

	an error will be generated
\bigcirc	0 1 0 1 0 1 2
	no output
	0 0 1 1 1 1 0 2 1 2
	0 1 2 0 0 1 2 1 0 1 2 2 0 1 2 3
	0 1 0 0 1 1 0 1 2
	0 0 1 0 2 0 0 1 1 1 1 1 2 1 0 2 2 2 2 2 0 3 1 3 2 3
\bigcirc	0 1 2 0 1 2 0 1 2 0 1 2 3

Question 6 (1 point)

```
for outer in range(3):
    for inner in range(2):
        print(inner, end=' ')
print(outer)
```

0 1 0 1 0 1 2
0 1 2 0 0 1 2 1 0 1 2 2 0 1 2 3
an error will be generated
0 0 1 0 0 1 1 1 0 2 1 2
0 1 2 0 1 2 0 1 2 0 1 2 3
0 0 0 1 0 2 0 0 1 1 1 1 2 1 0 0 2 1 1 2 2 2 2
no output
0 1 0 0 1 1 0 1 2

Question 7 (1 point)

```
for outer in range(0):
    for inner in range(2):
        print(inner, end=' ')
print(outer)
```

0 1 2 0 1 2 0 1 2 0 1 2 3
0 0 1 0 0 1 1 1 0 2 1 2
0 1 0 0 1 1 0 1 2
an error will be generated
0 0 1 0 2 0 0 1 1 1 1 1 2 1 0 2 1 1 2 2 2 2
0 1 0 1 0 1 2
no output
0 1 2 0 0 1 2 1 0 1 2 2 0 1 2 3

Question 8 (1 point)

Assuming no preceding code has been executed, what is the output of the following code?

```
for outer in range(3):
    for inner in range(2):
        x = inner + outer
        print(x, end=' ')
```

Question 9 (1 point)

Assuming no preceding code has been executed, what is the output of the following code?

```
for outer in range(3):
    for inner in range(outer):
        print(outer, inner, sep=':', end=' ')
```

Question 10 (1 point)

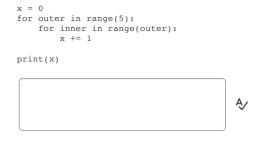
```
x = 0 for outer in range(3):
```

```
for inner in range(2):
    x += 1

print(x)
```

Question 11 (1 point)

Assuming no preceding code has been executed, what is the output of the following code?



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