Debugging & Tracing

Figure out what is wrong with this buggy code and fix it!

def divide\_and\_round(n):

"""

Divides an integer n by 2 and rounds

up to the nearest whole number

"""

if n % 2 == 0:

n = n / 2

else:

n = (n + 1) / 2

def main():

n = 10

divide\_and\_round(n)

print(n) # should print 5

Concepts:

This problem focused on functions are return values. If you found it confusing, here are a few resources: The [Functions Chapter](https://codeinplace2021.github.io/pythonreader/en/functions/) covers functions and return values​. Return values are notoriously one of the hardest concepts in the first half of CS106A.

Debug Solution



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"""

Part A: The program prints 10.

The divide\_and\_round function correctly divides n by 2 and rounds up

to the nearest whole number, but does not return or print n. Therefore, the

value of n in main’s print statement is still 10, and so 10 gets printed.

"""

"""

Part B: Here is the fixed program

"""

def divide\_and\_round(n):

"""

Divides an integer n by 2 and rounds

up to the nearest whole number

"""

if n % 2 == 0:

n = n / 2

else:

n = (n + 1) / 2

# this function should return n

return n

def main():

n = 10

# use the x = change(x) paradigm to make sure main's n is changed

n = divide\_and\_round(n)

print(n)

What did the AI Think?

An algorithm read your program. It has some ideas! But you should take them with a grain of salt. Algorithms aren't as smart as people! Check out what the AI said to unlock the next question!

See your solution