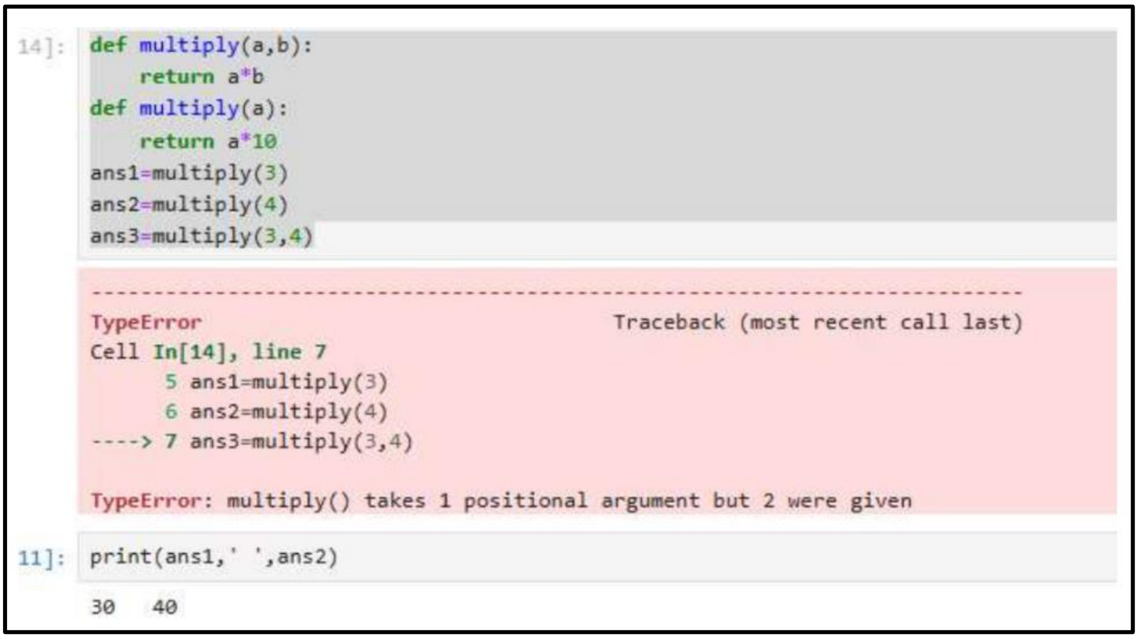
NED University of Engineering and Technology — Computer & Info. System Engineering
Usman Rasheed Siddiqui — CS-24038

Practice Assignment 1

Some insights on Method Overloading in Python

PROBLEM:



```
14]: def multiply(a,b):
         return a*b
     def multiply(a):
         return a*10
     ans1=multiply(3)
     ans2=multiply(4)
     ans3=multiply(3,4)

     ---------------------------------------------------------------------------
     TypeError                                 Traceback (most recent call last)
     Cell In[14], line 7
           5 ans1=multiply(3)
           6 ans2=multiply(4)
     ----> 7 ans3=multiply(3,4)

     TypeError: multiply() takes 1 positional argument but 2 were given

11]: print(ans1,' ',ans2)

     30   40
```

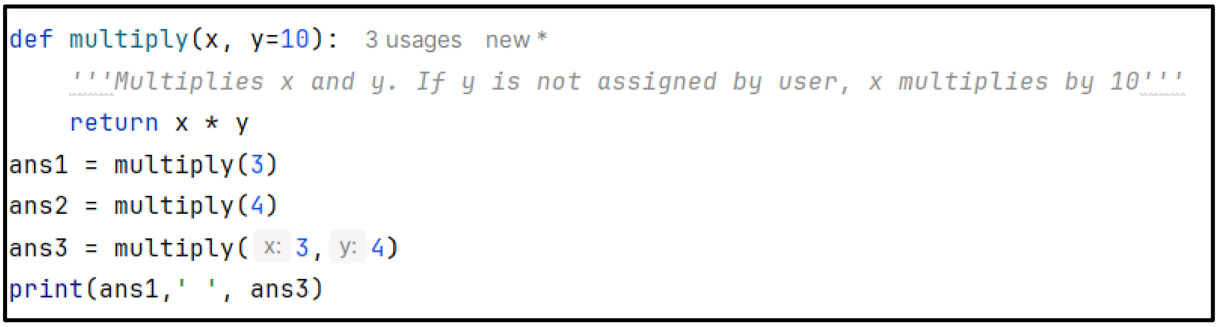
SOLUTION:

Problem Identification:

As a python does not support true method overloading therefore, defining two or more functions with same names makes the previous ones unfunctional. As a result, two arguments giving by the user raises error.

Problem Solution:

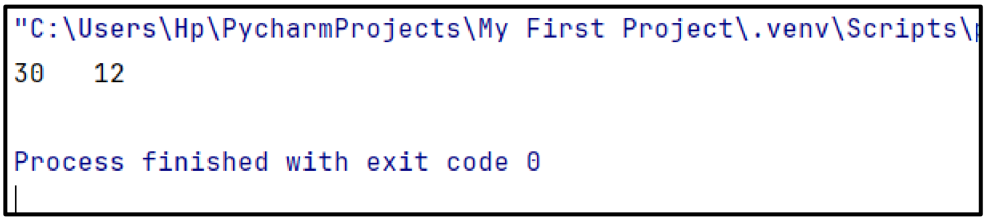
INPUT



```
def multiply(x, y=10):  3 usages   new *
    '''Multiplies x and y. If y is not assigned by user, x multiplies by 10'''
    return x * y
ans1 = multiply(3)
ans2 = multiply(4)
ans3 = multiply( x: 3, y: 4)
print(ans1,' ', ans3)
```

Dated: 22 January 2025

OUTPUT



```
"C:\Users\Hp\PycharmProjects\My First Project\.venv\Scripts\
30   12

Process finished with exit code 0
```

In the above code, I modified y argument by providing it with a constant value i.e. “10”. With that if y is not provided by the user, x is by itself multiplied by 10. However, providing x is necessary to execute the program.