Using Functions With Lists Practice Problems Solutions:

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"""


0.Setup:
a.create a list of integers and assign it to a variable
b.create a list of strings and assign it to a variable
c.create a list of floats and assign it to a variable


1.Passing A List to A Function:
a.create a function that takes and returns an input
b.print a call of the function you created in step 1.a. with the list of integers from step 0.a. as the input
c.print a call of the function you created in step 1.a. with the list of strings from step 0.b. as the input
d.print a call of the function you created in step 1.a. with the list of floats from step 0.c. as the input


2.Accessing An Element In A list using A Function:
a.create a function that takes a list as an input and returns one of that lists elements
b.print a call of the function you created in step 2.a. with the list of integers from step 0.a. as the input
c.print a call of the function you created in step 2.a. with the list of strings from step 0.b. as the input
d.print a call of the function you created in step 2.a. with the list of floats from step 0.c. as the input


3.Modifying A List Element Within A Function:
a.create and call a function that prints the product of all the integers from the list you created in step 0.a.
b.create and call a function that concatenates all the strings from the list you create in step 0.b and prints the
 result
c.create and call a function that prints the quotient of all the floats from the list you created in step 0.c.

4.Manipulating Lists Within Functions:
a.create a list that uses 3 of the following functions on one of the lists you created in part 0 of this problem set:
 .append(), .remove(), .insert, or .pop().  Also, make sure that the function prints the resulting list
b.call the function from part 4.a. using one of the lists you made in part 0 of this problem set.

"""


# 0.a.
ints = [1, 2, 3, 4, 5]

# 0.b.
strings = ["ho", "pl", "ite"]

# 0.c.
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floats = [1.32, 2.43, 3.54, 4.65]


# 1.a.
def passer(aList):
    return aList

# 1.b.
print(passer(ints))

# 1.c.
print(passer(strings))

# 1.d.
print(passer(floats))


# 2.a.
def access(theList):
   return theList[1]

# 2.b.
print(access(ints))

# 2.c.
print(access(strings))

# 2.d.
print(access(floats))


# 3.a.
def product(a):
    print(a[0] * a[3])

product(ints)  # prints the product of 1 and 4, which is 4

# 3.b.
def concatenator(b):
    # holder is a local variable to hold the concatenated list
    # note that holder is a local variable, meaning that it is only remembered within this function when it is called
    # and cannot be used outside of it
    holder = ""
    # adds each element in the list b to holder using a for loop
    for x in b:
        holder += x
    print(holder)

concatenator(strings)
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# 3.c.
def quotient(c):
    print(c[2] / c[1])

quotient(floats)  # prints the quotient of 3.54 and 2.43


# 4.a.
def three(d):
    # adds 6 to the end of d
    d.append(6)
    # inserts the integer 1 at index 0 of d
    d.insert(0, 1)
    # removes the first 1 (furthest left) from d
    d.remove(1)
    print(d)

# 4.b.
three(ints)
```