

TMTplus Introduction to Scientific Programming

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Answers 6

Strings

Ex 6.1

```
fruit = "apple" # assign a string to a variable
print(len(fruit)) # print the length
print("<" + fruit*10 + ">" ) # print the fruit 10 times and
    # add delimiter symbols at the beginning and at the
    # end of this long string
```

Ex 6.2

```
fruits = "apple" + "peach" + "melon" + "orange" # define a string
    # with 4 fruits and concatenate them
print(len(fruits)) # print the length
print(3*fruits) # print it 3 times
```

Ex 6.3

```
fruits = "apple_pear_lemon_orange_kiwi" # 5 fruits separated by a
    # space character
print(fruits[:2]) # print characters every 2 steps
print(fruits[:4]) # print characters every 4 steps
print(fruits[:-2]) # print using negative step
print(fruits[::-1]) # print using negative step
```

Ex 6.4

expression	truth value
"watermelon" == "waterMelon"	False
"BANANA" == "BANana"	False
"a" in "cranberry"	True
"g" not in "dragon fruit"	False
"berry" in "blueberry"	True
"cherry".isupper()	False
"CHERRY".islower()	False
"pear***apple".isalnum()	False
"pear444apple".isalpha()	False

```

fruits = "pineapple_lemon_orange_kiwi" # a string of 4 fruits
# separated by a space character

list_characters = list(fruits) # turn fruits string into list of
# characters

print(len(list_characters)) # print the length of the list of
# characters

characters_str = "".join(list_characters) # join the list of
# characters back to a unique string

print(characters_str)

separated_str= characters_str.replace("_","->") # use arrow symbol
# as a separator instead of space

print(separated_str)

```

Ex 6.5

```

fruits = "orange->kiwi->banana->pineapple->lemon" # a string of
# 5 five fruits, separated by an arrow symbol

print(fruits)

list_fruits = fruits.split("->") # create the list by using the
# .split() method, use arrow symbol for splitting

print(list_fruits)

del list_fruits[0] # remove one of the fruits from the list using
# the del command

print(list_fruits) #print the new list

fruits_str = "*".join(list_fruits) # merge the list of fruits back
# to a long string using the .join() method, use the
# asterisk symbol to separate the fruits in the string

print(fruits_str) #print the merged string

print(fruits_str.replace("*","_")) # replace the asterisk symbols
# with blank spaces

```

Ex 6.6

```

fruits = "orange_kiwi_apple_watermelon_lemon_peach_cherry"
# a string containing 7 fruits
for char in fruits: # iterate the list so every time you find a
# vowel in it, the program prints the vowel
    if char in "aeiou":
        print(char)

```

Ex 6.7