String program Assignment

Q.1. How would you confirm that 2 strings have the same identity?  
  
str1 = ("Hello")  
str2 = ("Hello")  
str3 = ("hello")  
print(id(str1), id(str2), id(str3))  
\*\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
1219533754072 1219533754072 1219535135160  
------------------------------------------  
animals = ['python','gopher']  
more\_animals = animals  
print(animals == more\_animals) #=> True  
print(animals is more\_animals) #=> True  
\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
True  
True  
====================================  
Q.2 How would you check if each word in a string begins with a capital letter?  
# The istitle() function checks if each word is capitalized  
a= "hi how are you"  
print(a.title())  
\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*  
Hi How Are You  
----------------------  
print('The Dog Is Barking'.istitle())  
print( 'The dog'.istitle())  
\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*  
True  
False  
-----------------------------  
# start with capitalize  
a= "hi how are you"  
print(a.capitalize())  
\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
Hi how are you  
=====================================  
  
Q.3 Check if a string contains a specific substring  
  
print('plane' in 'the worlds fastest plane')  
print('car' in 'the worlds fastest plane')  
\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
True  
False  
================================================  
  
Q. 4 Find the index of the first occurrence of a substring in a string  
# There are 2 different functions that will return the starting index, find() and index().   
They have slightly different behaviour.  
  
# find() returns -1 if the substring is not found.  
a= 'The worlds fastest plane'.find('plane')  
b= 'The worlds fastest plane'.find('car')  
print(a)  
print(b)  
\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
19  
-1  
--------------------------------  
a = 'The worlds fastest plane'.index('plane') ====> 19  
b = 'The worlds fastest plane'.index('car')  
print(b)====> ValueError: substring not found  
===============================================  
Q.5 Count the total number of characters in a string   
# len() will return the length of a string.  
  
msg = "hi how are you?... are looking for somebody?"  
print(len(msg))  
\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
44  
==============================================  
Q.6 Count the number of a specific character in a string  
# count() will return the number of occurrences of a specific character.  
msg = "hi how are you?... are looking for somebody?".count('o')  
print(msg)  
\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
7  
--------------------  
msg = "hi how are you?... are looking for somebody?".count('e')  
print(msg)  
\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
3  
--------------------------  
msg = "hi how are you?... are looking for somebody?".count('a')  
print(msg)  
\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
2  
==============================================  
Q 7. Capitalize the first character of a string  
# Use the capitalize() function to do this.  
  
sg = "hi how are you?... are looking for somebody?".capitalize()  
print(msg)  
\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
Hi how are you?... are looking for somebody?  
==============================================  
Q. 8 What is an f-string and how do you use it?  
# Using f-strings is similar to using format().  
# f-strings are denoted by an f before the opening quote.  
  
name ='Rajendra'  
age =40  
print(f'Hello my name is {name} & my age is {age}')  
\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
Hello my name is Rajendra & my age is 40  
=======================================  
Q.9 Interpolate a variable into a string using format()  
  
difficulty = 'easy'  
things = 'exam'  
print('That {} was {}!'.format(things, difficulty))  
\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
That exam was easy!  
============================================  
Q. 10 Check if a string contains only numbers  
isnumeric() returns True if all characters are numeric.  
print('5434'.isnumeric())  
print('534A2'.isnumeric())  
\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*  
True  
False  
=================================  
  
Q.11 Split a string on a specific character  
The split() function will split a string on a given character or characters.  
names = 'Rajendra, Ramesh, Gauri '  
print(names.split(" "))  
print('Gauri--i-love--you--lot'.split('--'))  
\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
['Rajendra,', 'Ramesh,', 'Gauri', '']  
['Gauri', 'i-love', 'you', 'lot']  
========================================  
  
Q. 12 Check if a string is composed of all lower case characters  
islower() returns True only if all characters in a string are lowercase.  
print('I love my India'.islower())  
print('i love my india'.islower())  
\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*  
False  
True  
===============================  
Q. 13 Check if the first character in a string is lowercase  
This can be done by calling the islower() function on the first index of the string.  
print('moja hi moja'[0].islower())  
print('Moja hi Moja'[0].islower())  
\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*  
True  
False  
===================================  
Q.14 Can an integer be added to a string in Python?  
No, it shows typeerror  
In some languages this can be done but python will throw a TypeError.  
 print('Ten'+10)=====> TypeError: can only concatenate str (not "int") to str  
=========================================================  
Q.15 Reverse the string “hello world”  
We can split the string into a list of characters, reverse the list, then rejoin into a single string.  
print(''.join(reversed("Hello World")))  
\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*  
dlroW olleH  
============================  
Q.16 Join a list of strings into a single string, delimited by hyphens (For[a-b-c])  
Python’s join() function can join characters in a list with a given character inserted between every element.  
print('-'.join(['a','b', 'c']))  
\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
a-b-c  
================================  
  
Q. 17 Uppercase or lowercase an entire string  
upper() and lower() return strings in all upper and lower cases.  
a= 'Hi! How Are You?'  
print(a.upper(),'and', a.lower())  
print(a.upper())  
print(a.lower())  
\*\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*  
HI! HOW ARE YOU? and hi! how are you?  
HI! HOW ARE YOU?  
hi! how are you?  
==============================  
  
Q.18 Uppercase first and last character of a string(forEx. FisH)  
animal = 'fish'  
print(animal[0].upper() + animal[1:-1] + animal[-1].upper())  
\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
FisH  
===============================  
Q. 19 Check if a string is all uppercase  
Similar to islower(), isupper() returns True only if the whole string is capitalized  
animal = 'TOrranTO'  
print(animal.isupper())  
\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*  
False  
-----------------------------  
animal = 'TORRANTO'  
print(animal.isupper())  
\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*  
True  
============================  
Q.20 Give an example of string slicing Slicing a string takes up to  
 3 arguments,string[start\_index:end\_index:step]  
==>Slicing a string takes up to 3 arguments, string[start\_index:end\_index:step].  
  
step is the interval at which characters should be returned.   
So a step of 3 would return the character at every 3rd index.  
  
string = 'I like to eat Apple'  
print(string[0])  
print(string[-1])  
print(string[7:13])  
print(string[0:-1:2])  
\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*  
I  
e  
to eat  
Ilk oetAp  
============================  
  
Q.21 Convert an integer to a string  
Use the string constructor, str() for this  
str ='5'  
print(str)  
\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*  
'5'  
=========================  
Q. 22 Check if a string contains only characters of the alphabet  
isalpha() returns True if all characters are letters.  
print('oneortwo'.isalpha())  
print('oneor2'.isalpha())  
\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*  
True  
False  
==============================  
  
Q.23 Replace all instances of a substring in a string  
Without importing the regular expressions module, you can use replace().  
sentence ='Rajendra loves you Rupali'  
print(sentence.replace('you','only'))  
\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
Rajendra loves you Rupali  
Rajendra loves only Rupali  
======================================  
Q.24 Check if all characters in a string are alphanumeric  
Alphanumeric values include letters and integers.   
print('Ten10'.isalnum())  
print('ten to ten'.isalnum())  
\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
True  
False  
============================  
Q.25 Remove whitespace from the left, right or both sides of a string  
 lstrip(), rstrip() and strip() remove whitespace from the ends of a string.  
   
 string = ' string of whitespace '  
print(string.lstrip()) #=> 'string of whitespace '  
print(string.rstrip()) #=> ' string of whitespace'  
print(string.strip()) #=> 'string of whitespace'  
  
\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
string of whitespace   
 string of whitespace  
string of whitespace  
==============================================  
Q.26 Check if a string begins with or ends with a specific character?  
startswith() and endswith() check if a string begins and ends with a specific substring.  
city = 'New York'  
print(city.startswith('New'))  
print(city.endswith('N'))  
\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*  
True  
False  
==============================  
Q. 27 What is the effect of multiplying a string by 3?  
print('dog'\*3)  
print('I love You'' '\*3)  
\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*  
I love You I love You I love You   
================================  
Q.28 Capitalize the first character of each word in a string  
title() will capitalize each word in a string.  
capitalize () will capitalize only first letter of string  
  
msg = 'once upon time in mumbai'  
print(msg.title())  
print(msg.capitalize())  
\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*  
Once Upon Time In Mumbai  
Once upon time in mumbai  
================================  
  
Q.29 Concatenate two strings  
The additional operator can be used to concatenate strings.  
  
msg1 = 'once upon time in mumbai,'  
msg2 = 'no its always time in Mumbai'  
print(msg1 + " " + msg2)  
  
print("hi all," + ' ' + "How are you?")  
\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*  
  
once upon time in mumbai, no its always time in Mumbai  
hi all, How are you?  
================================  
  
Q.30 Remove vowels from a string (following word:'hello world')   
  
msg = 'hello world '  
vowels = ('a', 'e','i', 'o','u')  
print(''.join([c for c in msg if c not in vowels]))  
\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
hll wrld   
--------------------------------  
msg = 'hello world '  
msg2 = 'come fast we are running fast'  
vowels = ('a', 'e','i', 'o','u')  
print(''.join([c for c in msg if c not in vowels]))  
print(''.join([c for c in msg2 if c not in vowels]))  
\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*  
hll wrld   
cm fst w r rnnng fst  
====================================  
  
Q.31 When would you use rfind()? ex. story = 'The price is right said Bob. The price is right.'  
rfind() is like find() but it starts searching from the right of a string   
and return the first matching substring.  
  
story = 'The price is right said Bob. The price is right.'  
print(story.rfind('is'))  
print(story.rfind('Bob'))  
print(story.rfind('i'))  
print(story.rfind('s'))  
print(story.rfind('price'))  
print(story.rfind('d'))  
\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*  
39  
24  
43  
40  
33  
22  
================================  
  
Q.32 Check if a string begins with or ends with a specific character? | following :city = 'New York'  
  
city = 'New York'  
print(city.startswith('New'))  
print(city.endswith('Y'))  
\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*  
True  
False  
=============================  
"""