**Assessment 2**

1. What is a string in Python?

A string is defined as the sequence of characters.

1. How do you declare a string literal in Python?

We declare a string literal in Python by using single, double, or triple quotes:( ' ' ) , (" "), (''' '''), (""" """)

1. Which operator is used to concatenate two strings?

+ operator is used to concatenate 2 strings.  
Example:  
 a = "python"  
 b = "class"

print(a+b) ->’python class’

1. How do you access the first character of a string `s`?

We access it using indexing: s[0]

s = "Python"

print(s[0])

1. What will be the output of len('Hello')?

Output: 5

1. Which method is used to convert all characters of a string to uppercase?

upper() method is used.

1. How do you check if a string `s` starts with the letter "A"?

Using the method: s.startswith("A")

1. What does the strip() method do in Python?

It removes leading and trailing whitespace from a string (tabs, newlines, spaces).

s = " python "

print(s.strip()) ->’python’

1. What is the difference between isalpha() and isdigit() string methods?

isalpha() checks if all characters in the string are alphabetic (letters).  
isdigit() checks if all characters in the string are digits (numbers).

1. 10. How can you replace all occurrences of the letter 'a' with '@' in a string `s`?

Using the replace() method

s.replace('a', '@')

1. Write the syntax and usage of the find() method.

Syntax: string.find(substring, start, end)  
Usage: Returns the lowest index in the string where the substring is found,else returns -1

1. What is the difference between the find() and index() methods?

find() -returns -1 if the substring is not found.  
index()- raises ValueError if the substring is not found.

1. What is the return type of the split() method?

It returns a list of strings.

1. How do you join a list of strings into a single string?

We use the join() method.

1. Which method checks if all characters in a string are lowercase?

islower() method. Example: “python”.islower() -> True

1. How do you convert a string to title case in Python?

Use the title() method. Example:str=”CGI”

print( str.title())

1. What will be the output of 'Hello'.lower()?

Output: 'hello'

1. How can you count the number of occurrences of a substring in a string?

Using the count() method. Example :str=students

str.count(‘t’))

1. Write an example demonstrating the use of startswith() method.

text = "Good Morning World"  
print(text.startswith("Good")) -> Output: True  
print(text.startswith("world")) -> Output: False

1. What will be the output of ' Hello '.lstrip()?

Output: 'Hello ' (removes leading whitespace)

1. What is the difference between = and == operators in Python?

= is used to assign a value to a variable.  
== is used to compare two values to check if they are equal.

1. What is the meaning of a += 5 in Python?

It means a = a + 5. .It is an assignment operator,adds 2 to current value of ‘a’ and returns/update ‘a’ with new value

1. What happens when you write a = b = 10 in Python?

Both a and b will have the value 10.

1. Explain the working of a \*= 2 with an example.

It means a = a \* 2. .It is an assignment operator, multiplies 2 to current value of ‘a’ and returns/update ‘a’ with new value

1. Which operator is used for floor division assignment in Python?

//= is used for floor division assignment.

1. List all arithmetic operators used in Python.

* + (Addition),
  + (Subtraction),
* (Multiplication),
* / (Division),
* % (Modulus),
* \*\* (Exponentiation),
* // (Floor Division)

1. What will be the output of 5 + 3 \* 2 in Python?

Output: 11(\* evaluated first)

1. What will be the result of 10 / 3 in Python?

Result: 3.3333333333333335(float)

1. What is the difference between / and // operators?

/ returns a float.

Ex:5/3=1.33  
// returns the integer part (floor division).

Ex:5/3=1

1. What will be the result of 2 \*\* 3 in Python?

Output: 8(2 to the power of 3)

1. What is the modulus operator used for?

Returns the remainder of division.

1. What will be the output of -5 % 3 in Python?

Output: 1

1. What is the precedence order of arithmetic operators in Python?

() > \*\* > \* / // % > + -.

Parentheses () >> Exponentiation \*\* >> Multiplication \*,>> Division / >> Floor Division // >> Modulus % >> Addition + >> Subtraction -.

1. What will be the result of 4 + 3 - 2 \* 2 / 1?

Output: 3.0(first multiplication then divided then added = 2\*2=4->4/1=4->4+3=7->7-4.0=3.0)

1. Which arithmetic operator is used to calculate powers in Python?

\*\* (Exponentiation)

Ex: 2 \*\* 4 = 16

1. Write a Python expression that concatenates "Hello" and "World" with a space in between.

"Hello" + " " + "World"

1. Given s = "Hello", write Python code to print the last character of s.

print(s[-1])

1. If a = 5, write an expression to multiply 'a' by 2 using the assignment operator.

a \*= 2

1. Given s = "Python", write Python code to print the substring 'yth'.

print(s[1:4])

1. Write a Python expression to check if the word "apple" is present in the string 'I have an apple'.

print("apple" in "I have an apple") -in: is a membership operator ->true