**Multiple-Choice Questions (MCQs):**

Lists:

What is the result of my\_list[2] if my\_list = [10, 20, 30, 40]?

A) 10

B) 20

C) 30

D) 40

Which method is used to add an element to the end of a list in Python?

A) append()

B) insert()

C) extend()

D) add()

What does my\_list[::-1] do in Python?

A) Reverses the list

B) Returns the last element of the list

C) Sorts the list in descending order

D) Returns a copy of the list

Which data structure is used to store unique elements in Python?

A) List

B) Tuple

C) Set

D) Dictionary

How do you check if an element is present in a set?

A) Using contains()

B) Using in keyword

C) Using has()

D) Using exists()

Which method is used to add elements to a set in Python?

A) add()

B) append()

C) insert()

D) update()

Can you modify elements in a tuple after it is created?

A) Yes, using append()

B) Yes, using insert()

C) No, tuples are immutable

D) No, tuples are mutable

How do you create a tuple with a single element?

A) (1)

B) (1,)

C) [1]

D) {1}

What does "Hello" + "World" evaluate to in Python?

A) "HelloWorld"

B) "Hello World"

C) "HelloWorld"

D) Error

How do you access the first character of a string my\_str in Python?

A) my\_str[0]

B) my\_str(0)

C) my\_str.first()

D) my\_str.first

Which method is used to split a string into a list of substrings based on a delimiter?

A) split()

B) join()

C) concat()

D) append()

How do you check if a string starts with a specific substring?

A) startsWith()

B) startswith()

C) start()

D) beginWith()

What does len("Python") return in Python?

A) 5

B) 6

C) 7

D) 8

How do you convert a string to lowercase in Python?

A) str.lower()

B) str.upper()

C) str.casefold()

D) str.capitalize()

What does "hello".capitalize() return in Python?

A) "hello"

B) "Hello"

C) "HELLO"

D) Error

**Programming Exercises:**

* Write a Python program that takes a list of numbers and prints the sum of all the elements.

list=[1,2,3,4,5]

print(list)

* Develop a Python program that removes duplicates from a given list and prints the unique elements.

list1=[1,2,3,4,5,2,4,1]

list2=[]

for i in list1:

for i not in list2:

list2.append(i)

print(list2)

* Create a Python program that takes two sets as input and prints the union of these sets (all unique elements from both sets).

set1=set(input("enter values of set1:").split())  
 print(set1)  
 set2=set(input("enter values of set2:").split())  
 print(set2)  
 setsunion=set1.union(set2)  
 print("union of 2 sets:",setsunion)

* Write a Python function that checks if two given tuples are identical.

tuple1=(1,2,3)  
tuple2=(1,2,3)  
tuple3=(1,2,4)  
if tuple1==tuple2:  
 print("tuple1 and tuple2 are identical.")  
else:  
 print("tuple1 and tuple2 are not identical." )  
if tuple1==tuple3:  
 print("tuple1 and tuple3 are identical.")  
else:  
 print("tuple1 and tuple3 are not identical." )

* Implement a Python program that reads a string and counts the occurrences of each character.

inputstring=("python is programing")  
print(inputstring.count("p"))  
print(inputstring.count("y"))  
print(inputstring.count("t"))  
print(inputstring.count("t"))  
print(inputstring.count("o"))  
print(inputstring.count("n"))

* Develop a Python program that reverses a given string using slicing.

text="hello world"  
mystring=text[::-1]  
print(mystring)

* Write a Python program to find the common elements between two lists.

a=[1,2,3,4,5,6]  
b=[2,3,7,8,9,5]  
lists=list(set(a) & set(b))  
print(lists)

* Create a Python function that takes a string as input and checks if it is a palindrome.

Text should be of same world when we reverse the text

text=("wow")  
if(text==text[::-1]):  
 print("This is palindrome string")  
else:  
 print("This is not palindrome string")

* Implement a Python program that converts a given string to title case (capitalize the first letter of each word).

text="hello world"  
a=text.capitalize()  
print(a)

* Write a Python program that reads a list of strings and sorts them in alphabetical order.

text=["banana","mango","apple","dragon","grapes","cherry"]  
a=text.sort()  
print(text)

* Develop a Python program that reads a string and counts the number of vowels (a, e, i, o, u) in it.

text=("a","e","i","o","u")  
texts=len(text)  
print(texts)

* Create a Python program that checks if a given string is an anagram of another string.

2 sets of string should have same charaters if sorted

text1=("helloworld")  
text2=("worldhello")  
if(sorted(text1)==sorted(text2)):  
 print("this string is anagrams.")  
else:  
 print("this string is not anagrams")

* Write a Python function that takes a list of numbers and returns a new list with only the even numbers.

list=[1,2,3,4,5,6,7,8,9]  
newlist=[]  
for i in list:  
 if i%2==0:  
 print("even numbers:",i)  
 newlist.append(i)  
 print(newlist)

* Develop a Python program that takes a string and converts it to uppercase.

text=("python is programimg")  
a=text.upper()  
print(a)

* Implement a Python program that reads a list of integers and prints the maximum and minimum values.

text=[1,2,3,4,5,6,7,8,9]  
a=max(text)  
b=min(text)  
print(a)  
print(b)