### **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?

1. "hello"

B) "Hello"

C) "HELLO"

D) Error

### **Programming Exercises:**

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

**Syntax:**

list=[10,20,30,40,50,60]

sum=sum(list)

print(“/n sum of the list:”)

print(sum)

**output: /n sum of the list:**

**210**

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

**Syntax:**

list=[10,1,2,4,10,4,5,6,3,4,5,7,8,9]

print('unique elements: ',(set(list)))

**output:** **unique elements: {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}**

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

**Syntax:**

set1={1,2,3,4,5}

set2={5,6,7,8,9}

union\_set=set1|set2

print(union\_set)

**output:** **{1, 2, 3, 4, 5, 6, 7, 8, 9}**

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

**Syntax:**

tuple1 = (1,2,3,4,5)

tuple2 = (1,2,3,4,5)

print("The original tuple1 : " ,tuple1)

print("The original tuple2 : " ,tuple2)

result = tuple1 == tuple2

print("Are tuple identical : " ,result)

**output:** **The original tuple1 : (1, 2, 3, 4, 5)**

**The original tuple2 : (1, 2, 3, 4, 5)**

**Are tuple identical : True**

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

**Syntax:**

string = "elephantridesabike"

res = {x: string.count(x) for x in set(string)}

print("/n occurrence of all characters in elephant rides a bike is : " , str(res))

**output: occurrence of all characters in elephant rides a bike is: {'e': 4, 't': 1, 'n': 1, 'd': 1, 'b': 1, 'i': 2, 'h': 1, 'p': 1, 'r': 1, 'l': 1, 'k': 1, 's': 1, 'a': 2}**

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

**Syntax:**

string="elephant rides a bike"

print("/n reverse string:")

print(string[::-1])

**output:** **/n reverse string:**

**ekib a sedir tnahpele**

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

**Syntax:**

list1=[10,20,3,4,5,6,29,40]

list2=[1,2,3,4,5,6,7,8]

set1=set(list1)

set2=set(list2)

result=set1&set2

print('common elements between two lists: ',result)

**output:** **common elements between two lists: {3, 4, 5, 6}**

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

**Syntax:**

a = "madam"

b = ""

for i in a:

b = i + b

if (a == b):

print("Yes")

else:

print("No")

**output: Yes**

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

**Syntax:**

letter = ("apple","tiger","lion")

for line in letter:

output = line.capitalize()

print(output)

**output:** **Apple**

**Tiger**

**Lion**

string = ("lion", "is" , "a", "king", "forest")

for sentance in string:

output = sentance.capitalize()

print(output, end="")

LionIsAKingForest

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

**Syntax:**

list = ["van","lorry","jeep","helicopter"]

list.sort()

print(list)

**output: ['helicopter', 'jeep', 'lorry', 'van']**

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

**Syntax:**

string = "thelionis king of the forest"

vowels = "aeiou"

count = sum(string.count(vowel)

for vowel in vowels)

print("/n count the vowels in string:")

print(count)

**output: /n count the vowels in string:**

**9**

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

**Syntax:**

str1 = "ant"

str2 = "tan"

if (str1, str2):

print("The strings are anagrams.")

else:

print("The strings are not anagrams.")

**output: The strings are anagrams.**

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

**Syntax:**

list = [1,2,4,5,6,88,55,34,33,23,35,67,79,90]

for num in list:

if num % 2 == 0:

print(num, end=", ")

output: 2 ,4 ,6 ,88 ,34 ,90 ,

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

**Syntax:**

string = ("thelionisthekingoftheforest ")

print("original string:",string)

uppercase\_string = string.upper()

print("Uppercase:", uppercase\_string

output: original string: thelionisthekingoftheforest

Uppercase: THELIONISTHEKINGOFTHEFOREST

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

**Syntax:**

list = [100,500,200,400,1000]  
print(list)  
max\_value = max(list)  
print("/n maximum number:")  
print(max\_value)  
print("/n minimum number:")  
min\_value=min(list)  
print(min\_value)

output: [100, 500, 200, 400, 1000]

/n maximum number:

1000

/n minimum number:

100