CHARUSAT
CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY

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Chandubhai S Patel Institute of Technology

Faculty of Technology and Engineering

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Academic Year	:	2023-24	Semester	:	4th
Course code	:	CE269	Course name	:	Programming in Python

Practical 2

A) Create a list and apply methods (append, extend, remove, reverse), arrange the created list in ascending and descending order.

Code:-

```
# Create An Empty List
My_List = []

# Append Elements To The List
My_List.Append(10)
My_List.Append(20)
My_List.Append(30)

Print("Initial List:", My_List)

# Extend The List With Another List
My_List.Extend([40, 50, 60])

Print("List After Extending:", My_List)

# Remove An Element From The List
My_List.Remove(20)

Print("List After Removing Element:", My_List)

# Reverse The List
```

```
My_List.Reverse()

 Print("List After Reversing:", My_List)
# Sort The List In Ascending Order
My_List.Sort()

Print("List In Ascending Order:", My_List)

# Sort The List In Descending Order
My_List.Sort(Reverse=True)

Print("List In Descending Order:", My_List)
```

Output:-

```
Initial list: [10, 20, 30]
List after extending: [10, 20, 30, 40, 50, 60]
List after removing element: [10, 30, 40, 50, 60]
List after reversing: [60, 50, 40, 30, 10]
List in ascending order: [10, 30, 40, 50, 60]
List in descending order: [60, 50, 40, 30, 10]
```

B) List1 = [1, 2, 3, 4, ["python", "java", "c++", [10,20,30]], 5, 6, 7, ["apple", "banana","orange"]] From above list get word “orange” and “Python” & repeat this list five times without using loops.

Code:-

```
# Given list
List1 = [1, 2, 3, 4, ["python", "java", "c++", [10, 20, 30]],
5, 6, 7, ["apple", "banana", "orange"]]

# Get the word "orange" from the list
orange_word = List1[-1][-1]

# Get the word "Python" from the list
```

```
python_word = List1[4][0].capitalize()

# Repeat the list five times
RepeatedList = [List1] * 5

# Output the words and the repeated list
print("Word 'orange':", orange_word)
print("Word 'Python':", python_word)
print("Repeated List:")
print(RepeatedList)
```

Output:-

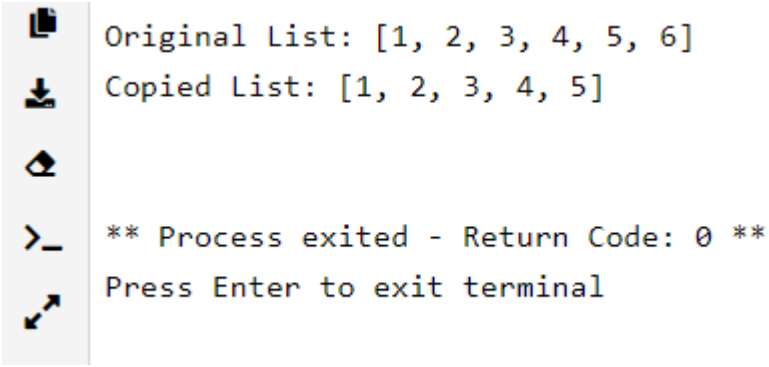
```
Word 'orange': orange
Word 'Python': Python
Repeated List:
[[1, 2, 3, 4, ['python', 'java', 'c++', [10, 20, 30]], 5, 6, 7, ['apple', 'banana', 'orange']], [1, 2, 3, 4, ['python', 'java', 'c++', [10, 20, 30]], 5, 6, 7, ['apple', 'banana', 'orange']], [1, 2, 3, 4, ['python', 'java', 'c++', [10, 20, 30]], 5, 6, 7, ['apple', 'banana', 'orange']], [1, 2, 3, 4, ['python', 'java', 'c++', [10, 20, 30]], 5, 6, 7, ['apple', 'banana', 'orange']], [1, 2, 3, 4, ['python', 'java', 'c++', [10, 20, 30]], 5, 6, 7, ['apple', 'banana', 'orange']]]
```

C) Create a list and copy it using slice function

Code:-

```
# Create a list
original_list = [1, 2, 3, 4, 5]

# Copy the list using slice function
copied_list = original_list[:]

# Modify the original list
original_list.append(6)

# Output the original and copied lists
print("Original List:", original_list)
print("Copied List:", copied_list)
```

output:-

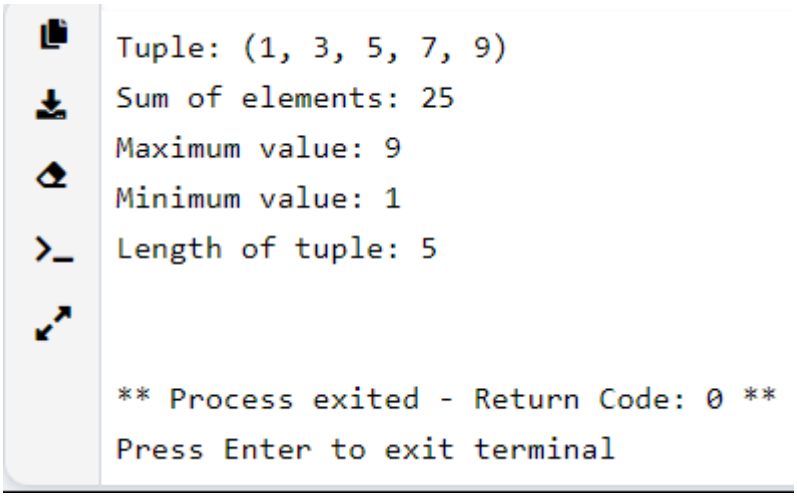


D) Create a tuple and apply different types of mathematical operation on it (Sum, Maximum, minimum etc.).

Code:-

```
# Create a tuple
my_tuple = (1, 3, 5, 7, 9)

# Sum of all elements in the tuple
sum_of_elements = sum(my_tuple)

# Maximum value in the tuple
max_value = max(my_tuple)

# Minimum value in the tuple
min_value = min(my_tuple)

# Length of the tuple
length_of_tuple = len(my_tuple)

# Output the results
print("Tuple:", my_tuple)
print("Sum of elements:", sum_of_elements)
print("Maximum value:", max_value)
print("Minimum value:", min_value)
print("Length of tuple:", length_of_tuple)
```

output:-


Tuple: (1, 3, 5, 7, 9)
Sum of elements: 25
Maximum value: 9
Minimum value: 1
Length of tuple: 5
** Process exited - Return Code: 0 **
Press Enter to exit terminal