**INSTITUTE OF TECHNOLOGY AND MANAGEMENT**
**SKILLS UNIVERSITY,**
**KHARGHAR, NAVI MUMBAI**

# PYTHON PROGRAMMING LAB


**Prepared by:**

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Roll No: __25_____

Batch: 2023-27

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

| Exp. No | List of Experiment |
|---|---|
| | 1.1 Write a program to compute Simple Interest. |
| | 1.2 Write a program to perform arithmetic, Relational operators. |
| | 1.3 Write a program to find whether a given no is even & odd. |
| | 1.4 Write a program to print first n natural number & their sum. |
| | 1.5 Write a program to determine whether the character entered is a Vowel or not . |
| | 1.6 Write a program to find whether given number is an Armstrong Number. |
| | 1.7 Write a program using for loop to calculate factorial of a No. |
| | 1.8 Write a program to print the following pattern |
| | i)<br>*<br>* *<br>* * *<br>* * * *<br>* * * * * |
| | ii)<br>1<br>2 2<br>3 3 3<br>4 4 4 4<br>5 5 5 5 5 |
| | iii)<br>*<br>* * *<br>* * * * *<br>* * * * * * *<br>* * * * * * * * * |

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| | 2.1 Write a program that define the list of defines the list of define countries that are in BRICS. |
| | 2.2 Write a program to traverse a list in reverse order.<br>1.By using Reverse method.<br>2.By using slicing |
| | 2.3 Write a program that scans the email address and forms a tuple of username and domain. |
| | 2.4 Write a program to create a list of tuples from given list having number and add its cube in tuple.<br>i/p: c= [2,3,4,5,6,7,8,9] |
| | 2.5 Write a program to compare two dictionaries in Python?<br>(By using == operator) |
| | 2.6 Write a program that creates dictionary of cube of odd numbers in the range. |
| | 2.7 Write a program for various list slicing operation.<br><br>a= [10,20,30,40,50,60,70,80,90,100]<br><br>i. Print Complete list<br>ii. Print 4th element of list<br>iii. Print list from0th to 4th index.<br>iv. Print list -7th to 3rd element<br>v. Appending an element to list.<br>vi. Sorting the element of list.<br>vii. Popping an element.<br>viii. Removing Specified element.<br>ix. Entering an element at specified index.<br>x. Counting the occurrence of a specified element.<br>xi. Extending list.<br>xii. Reversing the list. |
| | 3.1 Write a program to extend a list in python by using given approach.<br>i. By using + operator.<br>ii. By using Append () |

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| | iii. By using extend () |
| | 3.2 Write a program to add two matrices. |
| | 3.3 Write a Python function that takes a list and returns a new list with distinct elements from the first list. |
| | 3.4 Write a program to Check whether a number is perfect or not. |
| | 3.5 Write a Python function that accepts a string and counts the number of upper- and lower-case letters.<br>string_test= 'Today is My Best Day' |
| | 4.1 Write a program to Create Employee Class & add methods to get employee details & print. |
| | 4.2 Write a program to take input as name, email & age from user using combination of keywords argument and positional arguments (*args and**kwargs) using function, |
| | 4.3 Write a program to admit the students in the different Departments(pgdm/btech) and count the students. (Class, Object and Constructor). |
| | 4.4 Write a program that has a class store which keeps the record of code and price of product display the menu of all product and prompt to enter the quantity of each item required and finally generate the bill and display the total amount. |
| | 4.5 Write a program to take input from user for addition of two numbers using (single inheritance). |
| | 4.6 Write a program to create two base classes LU and ITM and one derived class. (Multiple inheritance). |
| | 4.7 Write a program to implement Multilevel inheritance, Grandfather□Father-□Child to show property inheritance from grandfather to child. |
| | 4.8 Write a program Design the Library catalogue system using inheritance take base class (library item) and derived class (Book, DVD & Journal) Each derived |

| | |
|---|---|
| | class should have unique attribute and methods and system should support Check in and check out the system. (Using Inheritance and Method overriding) |
| | 5.1 Write a program to create my_module for addition of two numbers and import it in main script. |
| | 5.2 Write a program to create the Bank Module to perform the operations such as Check the Balance, withdraw and deposit the money in bank account and import the module in main file. |
| | 5.3 Write a program to create a package with name cars and add different modules (such as BMW, AUDI, NISSAN) having classes and functionality and import them in main file cars. |
| | 6.1 Write a program to implement Multithreading. Printing “Hello” with one thread & printing “Hi” with another thread. |
| | 7.1 Write a program to use ‘whether API’ and print temperature of any city, also print the sunrise and sunset times for the same humidity of that area. |
| | 7.2 Write a program to use the ‘API’ of crypto currency. |

**Name of Student:** Shikha singh

**Roll Number:** 25

**Experiment No: 2.7**

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**Title:**

**2.7 Write a program for various list slicing operation.**

**a= [10,20,30,40,50,60,70,80,90,100]**

**i. Print Complete list**

**ii. Print 4th element of list**

**iii. Print list from 0 th to 4th index.**

**iv. Print list -7th to 3rd element**

**v. Appending an element to list.**

**vi. Sorting the element of list.**

**vii. Popping an element.**

**viii. Removing Specified element.**

**ix. Entering an element at specified index.**

**x. Counting the occurrence of a specified element.**

**xi. Extending list.**

**xii. Reversing the list.**

## Theory:

**Complete List Printing (i): The print("Complete list:", a) statement simply prints the entire list a.**

**Accessing 4th Element (ii): The index of the list starts from 0. So, print("4th element of the list:", a[3]) prints the 4th element of the list.**

**List Slicing (iii): The slicing operation print("List from 0th to 4th index:", a[0:5]) prints elements from index 0 to 4 (exclusive).**

**Negative Index Slicing (iv): The slicing operation print("List from -7th to 3rd element:", a[-7:4]) uses negative indexing to slice from the -7th element to the 3rd element.**

**Appending an Element (v): a.append(110) adds the element 110 to the end of the list.**

**Sorting the List (vi): a.sort() sorts the elements of the list in ascending order.**

**Popping an Element (vii): a.pop() removes and returns the last element of the list.**

**Removing Specified Element (viii): a.remove(specified_element) removes the specified element (60 in this case) from the list.**

**Inserting at Specified Index (ix): a.insert(index_to_insert, element_to_insert) inserts the given element (25 in this case) at the specified index (2 in this case).**

**Counting Occurrences (x): a.count(20) counts the occurrences of the specified element (20 in this case) in the list.**

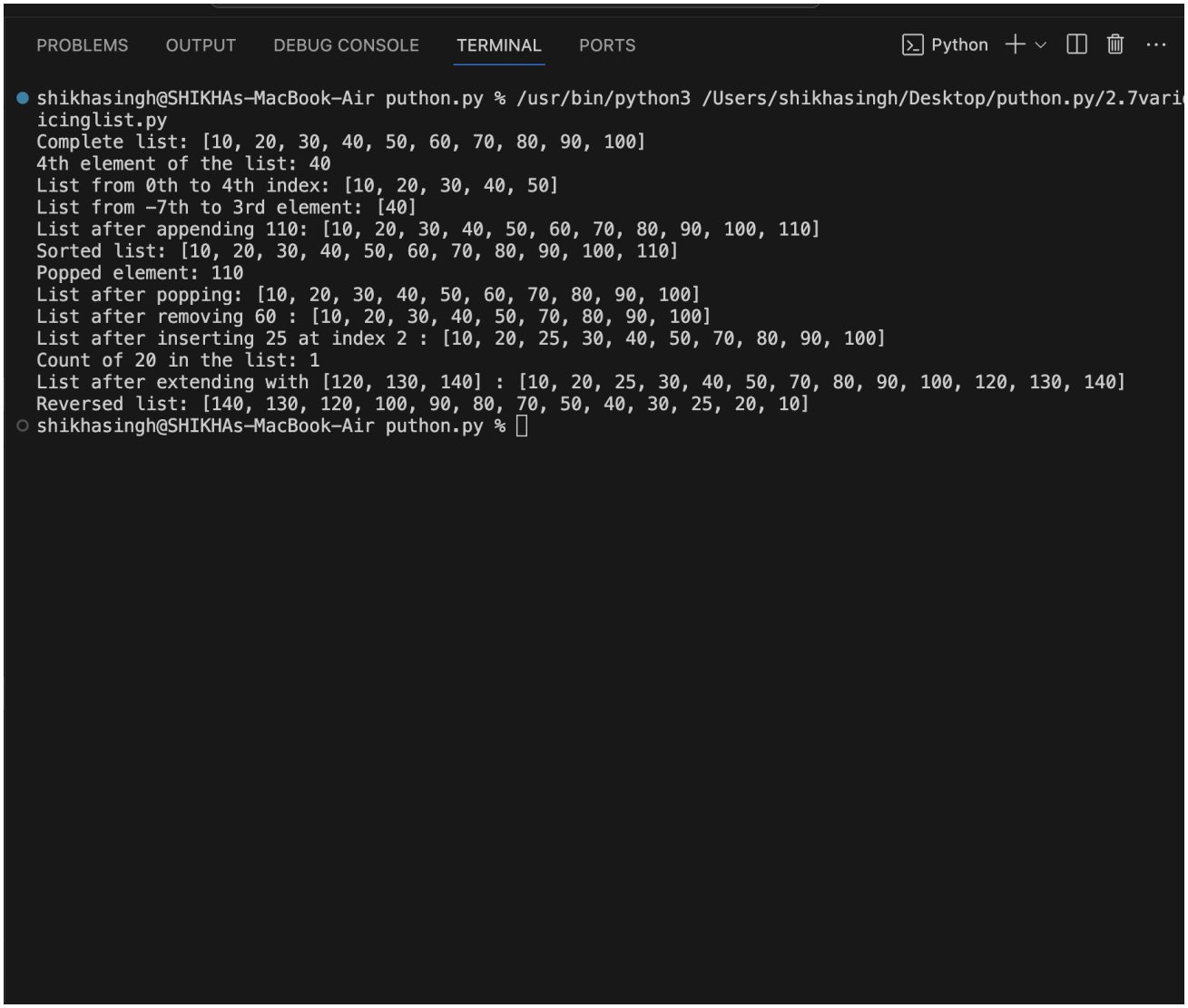
**Extending List (xi): a.extend(extended_list) adds the elements of the extended_list to the end of the original list.**

**Reversing the List (xii): a.reverse() reverses the order of elements in the list.**

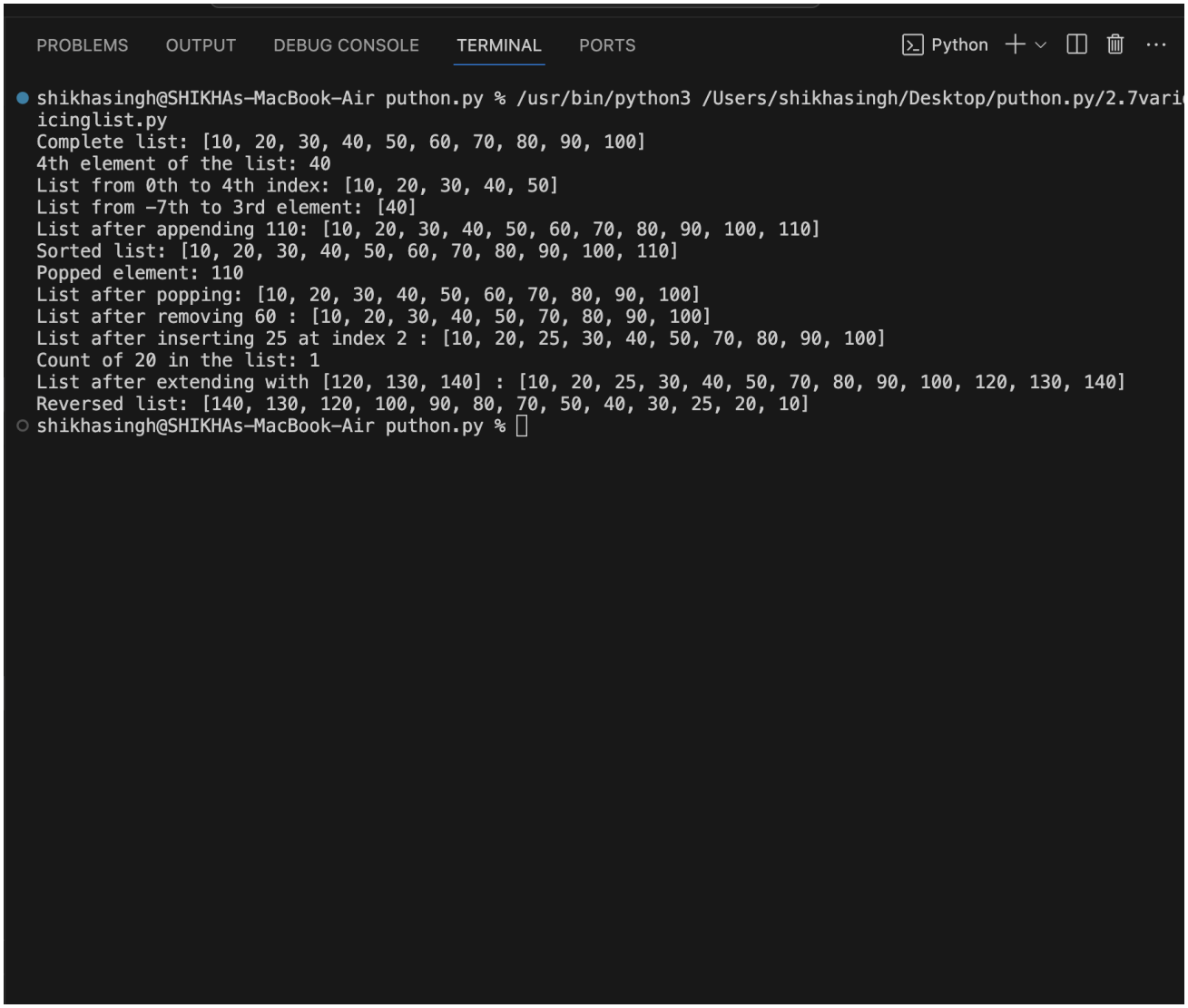
## Code:

```
a = [10, 20, 30, 40, 50, 60, 70, 80, 90, 100]
# i. Print Complete list
print("Complete list:", a)
# ii. Print 4th element of list
print("4th element of the list:", a[3])
# iii. Print list from 0th to 4th index
print("List from 0th to 4th index:", a[0:5])
# iv. Print list -7th to 3rd element
print("List from -7th to 3rd element:", a[-7:4])
# v. Appending an element to list
a.append(110)
print("List after appending 110:", a)
# vi. Sorting the elements of the list
a.sort()
print("Sorted list:", a)
# vii. Popping an element
popped_element = a.pop()
print("Popped element:", popped_element)
print("List after popping:", a)
# viii. Removing specified element
specified_element = 60
a.remove(specified_element)
print("List after removing", specified_element, ":", a)
# ix. Entering an element at specified index
index_to_insert = 2
element_to_insert = 25
a.insert(index_to_insert, element_to_insert)
print("List after inserting", element_to_insert, "at index", index_to_insert, ":", a)
# x. Counting the occurrence of a specified element
specified_element_count = a.count(20)
print("Count of 20 in the list:", specified_element_count)
# xi. Extending list
extended_list = [120, 130, 140]
a.extend(extended_list)
print("List after extending with", extended_list, ":", a)
# xii. Reversing the list
a.reverse()
print("Reversed list:", a)
```

## Output: (screenshot)




## Test Case: Any two (screenshot)




## Conclusion:

**This program demonstrates various list operations in Python, including accessing elements, slicing, appending, sorting, popping, removing, inserting, counting occurrences, extending, and reversing. Understanding and experimenting with these operations help in building a solid foundation for working with lists in Python.**