



**ITM** SKILLS  
UNIVERSITY

**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) <pre> * * * * * * * * * * * * * * *</pre>
	ii) <pre> 1 2 2 3 3 3 4 4 4 4 5 5 5 5 5</pre>
	iii) <pre>       *     * * *   *</pre>

	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. 1.By using Reverse method. 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. i/p: c= [2,3,4,5,6,7,8,9]
	2.5 Write a program to compare two dictionaries in Python? (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.  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 0th 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.
	3.1 Write a program to extend a list in python by using given approach. i. By using + operator. ii. By using Append ()

	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. 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:3.3**

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**Title:**

3.3 Write a Python function that takes a list and returns a new list with distinct elements from the first list.

**Theory:**

- The function `get_unique_elements` takes a list, `input_list`, as a parameter.
- It uses a set to store the unique elements from the input list. Sets automatically eliminate duplicate elements.
- The `list()` constructor is then used to convert the set back to a list while preserving the order of the unique elements.
- The resulting list with distinct elements is returned.

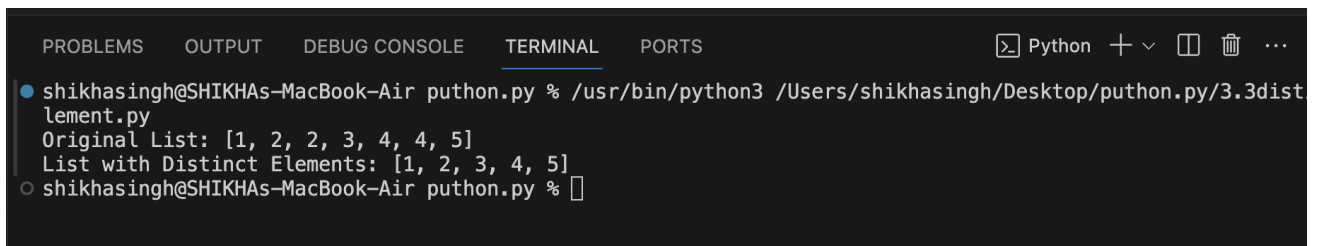
## Code:

```
def get_unique_elements(input_list):  
  
    unique_list = list(set(input_list))  
    return unique_list  
original_list = [1, 2, 2, 3, 4, 4, 5]  
result_list = get_unique_elements(original_list)  
print("Original List:", original_list)  
print("List with Distinct Elements:", result_list)
```

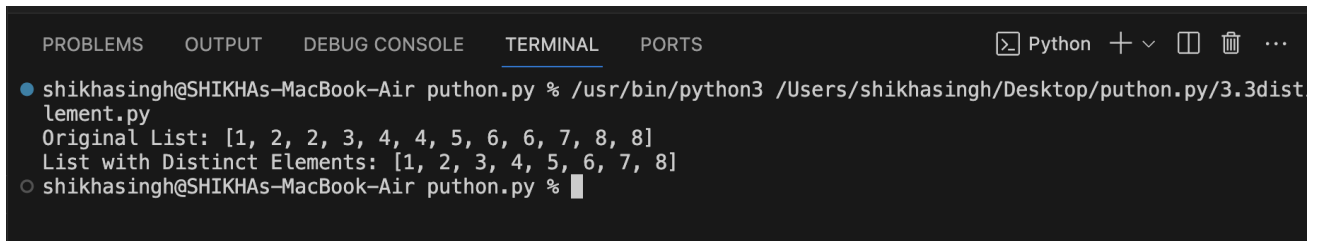
## Output: (screenshot)

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  Python + - [] ...  
● shikhasingh@SHIKHAS-MacBook-Air puthon.py % /usr/bin/python3 /Users/shikhasingh/Desktop/puthon.py/3.3dist  
  element.py  
  Original List: [1, 2, 2, 3, 4, 4, 5]  
  List with Distinct Elements: [1, 2, 3, 4, 5]  
○ shikhasingh@SHIKHAS-MacBook-Air puthon.py %
```

## Test Case: Any two (screenshot)



```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS Python + - [] [] ...
shikhasingh@SHIKHAs-MacBook-Air puthon.py % /usr/bin/python3 /Users/shikhasingh/Desktop/puthon.py/3.3dist
Original List: [1, 2, 2, 3, 4, 4, 5]
List with Distinct Elements: [1, 2, 3, 4, 5]
shikhasingh@SHIKHAs-MacBook-Air puthon.py %
```



```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS Python + - [] [] ...
shikhasingh@SHIKHAs-MacBook-Air puthon.py % /usr/bin/python3 /Users/shikhasingh/Desktop/puthon.py/3.3dist
Original List: [1, 2, 2, 3, 4, 4, 5, 6, 6, 7, 8, 8]
List with Distinct Elements: [1, 2, 3, 4, 5, 6, 7, 8]
shikhasingh@SHIKHAs-MacBook-Air puthon.py %
```

## Conclusion:

- **Efficiency:** The use of a set ensures fast access and removal of duplicates, making the function efficient for lists with a large number of elements.
- **Order Preservation:** The function retains the order of elements from the original list, providing flexibility for scenarios where the order is essential.
- **Flexibility:** The function can be easily integrated into different programs or scripts to obtain a list with unique elements, contributing to code modularity and reusability.
- **Scalability:** The approach is scalable to diverse datasets and can be applied to lists of various types, including numbers, strings, or a mix of both.