

Silicon Institute of Technology
Computer Programming Lab
Lab Assignment - 5
(Python Programs using Dictionary, Set)

August 28, 2025

1. Write a Python program to create a dictionary of 3 countries and their capitals. Print each country with its capital.
2. Create a dictionary "name": "Alice", "age": 22, "city": "Delhi". Write a program to print the values of "name" and "city".
3. Write a program to create a dictionary of a student with keys: "name", "age", "branch". Update the "age" to 21 and add a new key "grade" with value "A".
4. Create a dictionary of fruits with their prices. Write a program to delete one fruit from the dictionary and display the updated dictionary.
5. Write a program to store details of a book (title, author, price). Iterate through the dictionary and print each key and value.
6. Write a program to merge two dictionaries:
d1 = {"a": 10, "b": 20}
d2 = {"c": 30, "d": 40}
Expected Output: {'a': 10, 'b': 20, 'c': 30, 'd': 40}
7. Write a program to check if a value 200 exists in a dictionary. sampleDict = {'a': 100, 'b': 200, 'c': 300}
8. Given a dictionary of product prices:
prices = {"laptop": 55000, "phone": 25000, "tablet": 18000} Write a program to find the product with the maximum price.
9. Write a Python program that counts the frequency of each word in the string: "Python is fun and Python is powerful". Store the result in a dictionary.
10. Given a dictionary of roll numbers and names, write a program to invert it so that names become keys and roll numbers become values.
students = {101: "Amit", 102: "Riya", 103: "John"}
11. Create a set {10, 20, 30}. Add 40 and 50. Remove 20. Print the final set.

12. Given two sets:
A = {1, 2, 3, 4}
B = {3, 4, 5, 6}
Write a Python program to find: Union of A and B. Intersection of A and B.
Difference A - B. Symmetric Difference A and B
13. Write a Python program that removes duplicate numbers from the list:[1, 2, 2, 3, 4, 4, 5]
14. Given two lists:
list1 = [1, 2, 3, 4]
list2 = [3, 4, 5, 6]
Write a Python program to find common elements using sets.
15. Write a Python program to find all unique words from the sentence: "Python is fun and learning Python is easy"
16. Given three sets:
A = {1, 2, 3}
B = {2, 3, 4}
C = {3, 4, 5}
Write a program to find: Elements common to all three sets. Elements present in at least one set.
17. remove items from set1 that are not common to both set1 and set2
set1 = {10, 20, 30, 40, 50}
set2 = {30, 40, 50, 60, 70}