

## **12 programming tasks/questions related to binary file handling using the pickle module in Python:**

1. Write a Python program that serializes a dictionary containing various data types (integers, floats, strings) into a binary file using the pickle module.
2. Create a program that prompts the user to enter details such as name, age, and email, then saves this information into a binary file using pickle.
3. Develop a program that reads a list of numbers from a text file, calculates their squares, and saves the result as a dictionary into a binary file using pickle.
4. Implement a program that stores a nested dictionary containing information about students and their subjects into a binary file using pickle.
5. Create a program that simulates a simple inventory management system. Serialize a dictionary representing inventory items into a binary file using pickle.
6. Develop a program that allows users to add, delete, and update records in a binary file storing student information using pickle.
7. Write a Python script that reads data from a binary file using pickle and displays it on the console.
8. Create a program that encrypts sensitive data (e.g., passwords) before serializing it into a binary file using pickle.
9. Implement a program that reads a binary file containing serialized objects using pickle and performs validation checks on the data.
10. Develop a program that stores a list of transactions (e.g., purchases) into a binary file using pickle, allowing users to query and analyze the data.
11. Create a program that serializes a Python dictionary containing information about countries (name, population, area) into a binary file using pickle.
12. Write a Python script that reads data from multiple binary files using pickle, merges the information, and saves it into a single binary file.