1. Question:

Design a C# program that manages a collection of Employee objects. Each Employee object should have properties for Name (string) and Salary (double). Implement the following functionalities:

- Allow the user to input the number of employees.
- Create an array to store the specified number of Employee objects.
- Prompt the user to input the name and salary for each employee and store them in the array.
- Calculate and display the average salary of all employees.
- Display the details of employees whose salaries are above the average salary.

2. Question:

Create a C# program that simulates a bookstore. Define a class Book with properties Title (string), Author (string), and Price (double). Implement the following functionalities:

- Allow the user to input the number of books to add to the inventory.
- Create an array to store the specified number of Book objects.
- Prompt the user to input the details of each book (title, author, and price) and store them in the array.
- Display the details of all books in the inventory, sorted alphabetically by title.

3. Question:

Develop a C# program for a student grading system. Create a class Student with properties Name (string) and Grades (array of integers). Implement the following functionalities:

- Allow the user to input the number of students.
- Create an array to store the specified number of Student objects.
- For each student, prompt the user to input the name and grades (an array of integers) and store them in the corresponding Student object.
- Calculate and display the average grade for each student.
- Calculate and display the overall class average grade.

4. Question:

Write a C# program to manage a list of contacts. Define a class Contact with properties Name (string) and PhoneNumber (string). Implement the following functionalities:

- Allow the user to input the number of contacts to add.
- Create an array to store the specified number of Contact objects.
- Prompt the user to input the name and phone number for each contact and store them in the array.
- Provide an option to search for a contact by name and display their phone number.

5. Question:

Design a C# program for a bank account management system. Create a class Account with properties AccountNumber (string) and Balance (double). Implement the following functionalities:

- Allow the user to input the number of accounts to manage.
- Create an array to store the specified number of Account objects.
- For each account, prompt the user to input the account number and initial balance and store them in the corresponding Account object.
- Provide options to deposit and withdraw funds from an account.
- Display the balance of all accounts.

Sample Input and output

Enter the total number of accounts to manage: 3

Enter an account number: 182353554

Enter initial balance: 56874.16

Enter an account number: 182445365

Enter initial balance: 89102.35

Enter an account number: 189364845

Enter initial balance: 46831.54

If you want to deposit type 'D' or type 'W' to withdraw: d

Enter account number: 182445365

Enter amount to deposit: 22000

Deposited R22000

Avalible balance R111102.35

Display the balance of all accounts

Account number: 182353554 and Balance: 56874.16

Account number: 182445365 and Balance: 111102.35

Account number: 189364845 and Balance: 46831.54

6. Question:

Develop a C# program for managing a library catalog. Define a class Book with properties Title (string), Author (string), and Genre (string). Implement the following functionalities:

- Allow the user to input the number of books in the catalog.
- Create an array to store the specified number of Book objects.
- Prompt the user to input the details of each book (title, author, and genre) and store them in the array.
- Display the details of books belonging to a specific genre.

Sample Input and Output

Enter the total number of books in the catalog: 4

   Input Book Details

Enter title: Home and Garden

Enter author: MS Mthethwa

Enter genre: Graphic Novel

Enter title: Memoir

Enter author: S Sibiya

Enter genre: Paranormal romance

Enter title: Self help

Enter author: ST Zulu

Enter genre: Suspense

Enter title: Sports and Leisure

Enter author: Lihle Mvulane

Enter genre: Thriller

Enter the genre to find book details: suspense

Title: Self help   Author: ST Zulu   Genre: Suspense

7. Question:

You are tasked with creating a C# project to handle text file operations. Ensure that your code is appropriately structured and commented to enhance readability and understanding. Follow the instructions below:

- **File Creation:** Start by creating a sample text file named "writeNread.txt" within your project directory. This file will be used for both writing and reading operations.
- **Writing Content:** Implement a C# class named "write.cs" to write content into the "writeNread.txt" file. The class should include a method to accept user input and write it into the text file.
- **Reading Content:** Develop another C# class named "read.cs" to read the content from the "writeNread.txt" file. This class should include a method to retrieve and display the content of the text file to the user.