Data Structures - 2077
Lab Plan - 1

CLASS

1. **Class Definition:**
   - Define a class named Person with attributes like name, age, and gender.
2. **Object Creation:**
   - Create an object of the Person class named person1.
3. **Member Access:**
   - Access and print the name attribute of the person1 object.
4. **Member Function Call:**
   - Create a member function in the Person class named displayInfo that prints the details of a person (name, age, gender). Call this function for the person1 object.
5. **Multiple Objects:**
   - Create another object of the Person class named person2 and print its details using the displayInfo member function.

POINTERS

6. **Pointer Declaration:**
   - Declare a pointer variable named `ptr` of type `int`.
7. **Pointer Initialization:**
   - Initialize the pointer `ptr` with the address of an integer variable named `number`.
8. **Pointer Dereferencing:**
   - Dereference the pointer `ptr` to access and print the value it points to (the value of `number`).
9. **Pointer Arithmetic:**
   - Perform pointer arithmetic by incrementing the pointer `ptr` to point to the next integer and print its value.
10. **Pointer to Array Elements:**
    - Declare an array of integers named `arr` and a pointer `arrPtr` that points to the first element of the array. Access and print the value pointed to by `arrPtr`.

CLASSES & POINTERS

11. **Class Object with Pointer:**
    - Declare a class named `Car` with attributes like `model` and `year`. Create an object of this class named `myCar` and a pointer `carPtr` pointing to it.
12. **Member Access through Pointer:**
    - Access and print the `model` attribute of the `myCar` object using the pointer `carPtr`.
13. **Member Function Call through Pointer:**
    - Create a member function in the `Car` class named `displayDetails` that prints the car details. Call this function using the pointer `carPtr`.
14. **Pointer to Multiple Objects:**
    - Declare an array of `Car` objects named `carArray` and a pointer `arrayPtr` pointing to the first object. Access and print the model of the first car using the pointer.
15. **Object Assignment through Pointer:**
    - Create another object of the `Car` class named `anotherCar`. Use the pointer `carPtr` to assign the attributes of `anotherCar` to the original object `myCar`.