Final Project Plan:

Project 1: The task is to develop a program to store and manage YouTube videos and comments. It requires creating classes for Video and Comment, where Video has the responsibility to track the title, author, length (in seconds), and a list of comments, and Comment tracks the name of the commenter and the text of the comment. The program should create 3-4 videos with appropriate details and comments, and then display the video details and comments for each video in the list.

Project 2: The program defines four classes: Order, Product, Customer, and Address, each with specific responsibilities. Orders contain lists of products and customers and can calculate total cost, while Products hold information on the name, ID, price, and quantity. Customers contain a name and an Address class, which can return whether it is in the USA or not and return its fields in a single string. The program creates two orders and calls methods to get the packing and shipping labels and the total price of each order.

Project 3: The program aims to create a base Event class and derived classes for each event type, including the necessary data and methods to return messages for each event type. By implementing inheritance, using an address class, and following the principles of encapsulation, the program can avoid duplicating shared attributes and methods, and generate marketing messages for each event type.

Project 4: The program consists of a base Activity class and three derived classes, each with their own additional attributes. The base class contains virtual methods for getting the distance, speed, and pace which are overridden in the derived classes. A GetSummary method is provided in the base class to produce a string with all the summary information, and the program creates at least one activity of each type and calls the GetSummary method on each item.