# Experiment No. 7

Title: Modeling Sequence Diagram for Music Recommendation System

## Objective:

To draw a sequence diagram showing interactions between the user and system during music recommendation and playback.

## Theory:

A Sequence Diagram is a UML behavioral diagram that illustrates how objects interact with each other in a particular sequence of time. It shows the dynamic behavior of a system by displaying the order of messages exchanged between the user and system components. The key elements are: Actor, Object, Lifeline, Message, and Activation Bar.

## Procedure:

1. Identify the main actor (User) and objects (System, Database, Recommendation Engine, Music Player).  
2. Determine the sequence of interactions between these entities.  
3. Draw the message flow between the actor and the system components.  
4. Label all interactions clearly, such as login, recommendation request, and song playback.

## Sequence of Interactions (Flow):

1. User logs into the system.  
2. System verifies user credentials from the Database.  
3. User requests music recommendations.  
4. Recommendation Engine fetches user history and preferences from the Database.  
5. Recommendation Engine generates and displays recommended songs.  
6. User selects a song to play.  
7. System retrieves the song file from the Database.  
8. Music Player plays the selected song.

## Result:

The Sequence Diagram for the Music Recommendation System was successfully modeled. It clearly depicts the interaction between the user and various system components such as the Database, Recommendation Engine, and Music Player during music recommendation and playback.