SE116 – LAB#9 2023-2024 SPRING

Aim: Understanding the use of files; understanding the concepts of serialization and file operations.

1. Modify the project implemented for Lab#7 in the following manner:

In this lab, Lab#9, you should sequentially write data to a file using object serialization and sequentially read data from that file using object deserialization.

To write a serialized object into a file, use the method **writeObject** of class **ObjectOutputStream**.

To read corresponding data from a file in order to deserialize the corresponding object in program memory, use the method **readObject** of class **ObjectInputStream**.

According to the corresponding I/O operations mentioned, modify the required classes of LAB#7 to **implement** the interface **Serializable**.

2. To test the modified project, in main method, at first, create 5 instances of class `Radio` and write their data into a file (*radios.ser*) using serialization. Then, create 5 instances of class `MusicPlayer` and write their data into another file (*musicPlayers.ser*) using serialization.

At this moment, if everything is successful, you will have two files that store the data of corresponding objects. Therefore, now, you can read the required data from each file into your program and deserialize the corresponding objects.

Using these deserialized objects, create sample instances of class `Phone` to be added into an instance of an `ArrayList` of `Phone`. At this moment, if everything is successful, you can display the menu mentioned in Lab#7 and use simulated smartphone operations.