

```

package project1;
import java.util.concurrent.Semaphore;
public class ReaderWriter {
    static int mutex=1;
    static int database=1;
    static int Read_Count=0;
    static void Reader() throws Exception
    {
        while(true)
        {
            mutex=wait(mutex);
            Read_Count=Read_Count+1;
            if(Read_Count==1){
                database=signal(database);
            }
            mutex=signal(mutex);
            System.out.println(Read_Count+ " User Reading the Data.....");
            mutex=wait(mutex);
            Read_Count=Read_Count-1;
            if(Read_Count==0)
            {
                database=signal(database);
            }
            mutex=signal(mutex);
            System.out.println("Reading Finished!!!!");
            break;
        }
    }
    static int wait(int mutex)
    {
        while(mutex<=0)
            break ;
        mutex=mutex-1;
        return mutex;
    }
    static int signal(int database)
    {
        database=database+1;
        return database;
    }
    static void Writer() throws Exception
    {
        while(true)
        {
            database=wait(database);
            System.out.println("Writing on the database.....");
            database=signal(database);
            System.out.println("Writing Finished!!!!.");
            break;
        }
    }
    public static void main(String[] args)throws Exception {
        Writer();
        Reader();
        Reader();
    }
}

```