

```

import java.util.*;
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)

```

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{
    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();

}
}

```

/* *** OUTPUT ***** */**

Writing on the database.....

Writing Finished!!!!.

1 User Reading the Data.....

Reading Finished!!!!.

1 User Reading the Data.....

Reading Finished!!!!.

******* */**