Programming Lab

Java IO Package

1. Write a program that demonstrate File class.

```
import java.io.*;
import java.util.*;
class Filedemo
{
 public static void main(String a[])
 {

      File f1=new File("E:/java");
      File f2=new File(f1,"japp1.java");
     System.out.println("path  "+f2.getPath());
     System.out.println("name  "+f2.getName());
     System.out.println("size   "+f2.length());
     System.out.println("directory  "+f1.isDirectory());
     System.out.println("file   "+f2.isFile());
     System.out.println("exists  "+f2.exists());
     System.out.println("Parent:    "+f2.getParent());
     long t = f2.lastModified();
     Date dt= new Date(t);
     System.out.println("LastModified:    "+dt );
     String list[]=f1.list();
    int n=list.length;
    for(int i=0;i<n;i++)
    {
      if(list[i].charAt(0)=='u')
     {
           System.out.println(list[i]);
     }
```

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▼ December (3)
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```
  }


 }
}
```

2. Write a java program to write 1 to 10 in one file, read the same file and copy even numbers in even file and odd numbers in odd file. Read both, even and odd files.

```
import java.io.*;
public class eveodd
{
 public static void main(String args[])
 {

  try
 {
   FileOutputStream fw =new FileOutputStream("first4");
   for(int i=1;i<=10;i++)
   fw.write(i);

  fw.close();
   }
  catch(Exception e){ }
  try
  {
   FileOutputStream fw=new FileOutputStream("even");
   FileOutputStream fw1=new FileOutputStream("odd");

   FileInputStream fr=new FileInputStream("first4");
   int j;
   while((j=fr.read())!=-1)
   {
    if(j%2==0)
      fw.write(j);
    else
     fw1.write(j);
   }
```

```
    fr.close();
    fw.close();
    fw1.close();
    }
    catch(Exception e){ }

   try{
   FileInputStream fr=new FileInputStream("even");
  FileInputStream fr1=new FileInputStream("odd");
  int k;
  System.out.println("Even data");
  while((k=fr.read())!=-1)
   System.out.println(k);

  System.out.println("Odd data");
  while((k=fr1.read())!=-1)
   System.out.println(k);

    fr.close();
    fr1.close();
    }
    catch(Exception e){}
   }
   }
```

3. **Write a program that describes how to write objects to the file and read object from the file.**

```
import java.io.*;
class Biodata implements Serializable
{
 String n;
 int age;
 Biodata(){ }
 Biodata(String n1, int a1)
 {
  n=n1;
  age=a1;
  }
 void print()
```

```
 {
  System.out.println("name"+n);
  System.out.println("age"+age);
 }
}
class ObjDemo
{
 public static void main(String args[])
 {
 try
 {

  FileOutputStream fos=new FileOutputStream("obj1.dat");
  ObjectOutputStream ob=new ObjectOutputStream(fos);

  Biodata m2=new Biodata("ghi",3);

  ob.writeUTF(m2.n);
  ob.writeInt(m2.age);
  ob.flush();
  ob.close();

  Biodata b1;
  Biodata b2= new Biodata();
  ObjectInputStream obj1= new ObjectInputStream(new
FileInputStream("obj1.dat"));
  while(true)
  {

    b2.n=(String)obj1.readUTF();
    b2.age=(int)obj1.readInt();
    b2.print();
   if(b2.age==3)
      break;
  }
   obj1.close();
  }
  catch(Exception e)
```

```
 {
  System.out.println("excetion"+e.getMessage());
 }
 }
}
```

4. Write a program to write object to the file and read object from the file.

```
import java.io.*;
class Biodata implements Serializable
{
 String n;
 int age;
 Biodata(){ }
 Biodata(String n1, int a1)
 {
  n=n1;
  age=a1;
  }
 void print()
 {
  System.out.println("name"+n);
  System.out.println("age"+age);
 }
}
class ObjDemo1
{
 public static void main(String args[])
 {
 try
 {

  FileOutputStream fos=new FileOutputStream("obj1.dat");
  ObjectOutputStream ob=new ObjectOutputStream(fos);
  Biodata m=new Biodata("abc",1);
  Biodata m1=new Biodata("def",2);
  ob.writeObject(m);
  ob.writeObject(m1);
```

```
 ob.flush();
 ob.close();

 Biodata b1;
int i=0;

 ObjectInputStream obj1= new ObjectInputStream(new
FileInputStream("obj1.dat"));
 while(true)
 {

 b1=(Biodata)obj1.readObject();
 b1.print();
 i++;
 if(i==2)
 break;

 }
 obj1.close();
 }
 catch(Exception e)
 {
 System.out.println("exception"+e.getMessage());
 }
 }
}
```

5. Write a program that describes, how to access data randomly from the file.

```
import java.io.*;
class RandDemo
{
 public static void main(String args[])
 {
  File f=new File("ran.txt");
  int a=123,a1,a2;
  String s="abcdef",s1,s2;
```

```
long l=9876,l1,l2;
long ap,lp,sp;
try
{
 RandomAccessFile rf=new RandomAccessFile(f,"rw");
 rf.writeInt(a);
 rf.writeUTF(s);
 rf.writeLong(l);
 rf.close();
rf=new RandomAccessFile(f,"rw");
ap=rf.getFilePointer();
a1=rf.readInt();
sp=rf.getFilePointer();
s1=rf.readUTF();
lp=rf.getFilePointer();
l1=rf.readLong();
System.out.println("sequntial data:");
System.out.println(" "+a1+s1+l1);
//----------random reading------------

rf.seek(ap);
  a2=rf.readInt();

rf.seek(lp);
 l2=rf.readLong();

 rf.seek(sp);
  s2=rf.readUTF();

 System.out.println("random data:");
 System.out.println(" "+a2+s2+l2);
 rf.close();




}
catch(IOException e)
```

```
  {
   System.out.println(" "+e.getMessage());
  }


 }
}
```

6. Write a program that demonstrate use of SequenceInputStream class. [f1.txt and f2.txt files are already exists.]

```
import java.io.*;
class sequencedemo
{
 public static void main(String args[]) throws IOException
 {
   FileInputStream f1= new FileInputStream("f1.txt");
   FileInputStream f2= new FileInputStream("f2.txt");
   SequenceInputStream s=new SequenceInputStream(f1,f2);
  int ans;
  while((ans=s.read())!=-1)
            System.out.print((char)ans);
 f1.close();
 f2.close();
 s.close();
}
}
```

7. Write a program that describes keyboard input.

```
import java.io.*;
public class std1
{
 public static void main(String args[]) //throws Exception
 {

  DataInputStream dis =new DataInputStream(System.in);
```

```
int i;
float f;
char c;
String s;

try{
    System.out.println("enter integer");
    i=Integer.parseInt(dis.readLine());

    System.out.println("enter float");
    f=Float.valueOf(dis.readLine()).floatValue();

   System.out.println("enter string");
   s=dis.readLine();

   System.out.println("enter character");
   c=(char)dis.read();

  System.out.println("integer  "+i);
  System.out.println("character  "+c);
  System.out.println("float  "+f);
  System.out.println("string  "+s);

} catch(Exception e){}
      }
  }
```