Q1

```java
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.IOException;

public class IO1 {
    public static void main(String[] args) {
        String srcfilepath="F:\\code\\java1\\day1\\doro.jpg";
        String aimfilepath="F:\\doro_copy.jpg";
        FileInputStream rd = null;
        FileOutputStream wt=null;
        int a =0;
        byte buff[]= new byte[1024];
        try {
            rd=new FileInputStream(srcfilepath);
            wt=new FileOutputStream(aimfilepath);
            while((a=rd.read(buff))!=-1){
                wt.write(buff,0,a);
            }
        } catch (IOException e) {
            throw new RuntimeException(e);
        } finally {
            try {if (rd!=null)
                rd.close();
            } catch (IOException e) {
                System.out.println("关闭异常");;
            }
            try {if (wt!=null)
                wt.close();
            } catch (IOException e) {
                System.out.println("关闭异常");
            }
        }

    }
}
```

思考与心得：图片，音频，视频等二进制文件的输入输出需要字节流，不然会发生乱码：
设置字节数组可以加快传输效率。

Q2

```
import java.io.*;
import java.nio.charset.StandardCharsets;
import java.util.ArrayList;
import java.util.Collections;
import java.util.List;


public class IO2 {
public static void main(String[] args) throws IOException {
String srcfilepath="F:\\name.txt";
String aimfilepath="F:\\name_sorted.txt";
String readline;
BufferedReader bufferedReader=null;
BufferedWriter buffwr=null;
List<String> names = new ArrayList<>();

             bufferedReader = new BufferedReader
                    (new InputStreamReader(new FileInputStream(srcfilepath), "UTF8"));
           buffwr = new BufferedWriter(
                   new OutputStreamWriter(new FileOutputStream(aimfilepath), "UTF8"));
            // 读取并处理每一行
            while ((readline = bufferedReader.readLine()) != null) {
                // 去除首尾空格
                String trimmedLine = readline.trim();
                // 过滤空行

                if (!trimmedLine.isEmpty()) {
                    names.add(trimmedLine);
                }

            }
            // 按Unicode自然排序
            Collections.sort(names);
            // 写入排序后的人名
            for (String name : names) {
                buffwr.write(name);
                buffwr.newLine(); // 使用newLine()方法换行
            }

            bufferedReader.close();
            buffwr.close();
```

```


        }

    }
```

Q3

object类（主程序）：

```

import java.io.*;

public class object {
    public static void main(String[] args) throws IOException, ClassNotFoundException {
        String filepath = "student.dat";

            ObjectOutputStream oos = new ObjectOutputStream(new FileOutputStream(filepath));
            Student student = new Student(1, "doro", 2, "114514");
            oos.writeObject(student);
            oos.close();
            ObjectInputStream ois=new ObjectInputStream(new FileInputStream(filepath));
             Student doro =(Student) ois.readObject();
        System.out.println(doro);
        ois.close();
    }
}
```

Student类:

```
public class Student implements Serializable {
    private Integer id;
    private String name;
    private Integer gender; //1表示男性 2表示女性
    private String phone;

    public Student(Integer id, String name, Integer gender, String phone) {
        this.id = id;
        this.name = name;
        this.gender = gender;
        this.phone = phone;
    }

    public Integer getId() {
        return id;
    }

    public void setId(Integer id) {
        this.id = id;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public Integer getGender() {
        return gender;
    }

    public void setGender(Integer gender) {
        this.gender = gender;
    }

    public String getPhone() {
        return phone;
    }

    public void setPhone(String phone) {
        this.phone = phone;
    }

    @Override
    public String toString() {
        return "Student{" +
                "id=" + id +
                ", name='" + name + '\'' +
                ", gender=" + gender +
                ", phone='" + phone + '\'' +
                '}';
    }
}
```