1 Answers

1.1 Code

```
import java.util.Scanner;
import java.io.*;
import java.util.Arrays;

public class People{
    //Instance Variables
    //Question 2
    private String firstName;
    private String lastName;
    private int age;
    private String state;

    //Question 3
    public static People [] persons;

    //Constructor
    //Question 4
    public People (String _firstName, String _lastName, int _age,
                   String _state){
        firstName = _firstName;
        lastName = _lastName;
        age = _age;
        state = _state;
    }
    //Question 5
    public String getName (){
        String name = firstName + " " + lastName;
        return name;
    }
    //Question 6
    public int getAge (){
        return age;
    }
    //Question 7
    public String getState (){
        return state;
    }
    //Question 8
    public String toString () {
        //for Name: ... you could also do firstName + " " + lastName (like
           in the getName method)
        String s = "Name: " + getName() + ", Age: " + age + ", State: " +
           state;
        return s;
    }
    //Question 9
    public static void readFile (String fileName){
        try {
            Scanner reader = new Scanner (new File (fileName));
            int numPeople = reader.nextInt();
            reader.nextLine();
```

```java
            //Question 10
            persons = new People [numPeople];
            for (int i = 0; i < numPeople; i++){
                //Question 11
                String firstName = reader.nextLine();
                String lastName = reader.nextLine();
                int age = reader.nextInt();
                reader.nextLine();
                String state = reader.nextLine();
                persons[i] = new People (firstName, lastName, age, state);

                //Note: you could also make a Person object
                //      and then store it into the array
                //People person = new People (firstName, lastName,
                //                            age, state);
                //persons[i] = person;
            }
            reader.close();
        } catch (Exception e) {
            System.out.println("Error: can't read " + fileName);
            System.exit(0);
        }
    }
    public static void writeFile (String fileName, People [] pArray){
        try {
            PrintWriter writer = new PrintWriter (new File (fileName));
            for (int i = 0; i < pArray.length; i++){
                writer.println(pArray[i]);
            }
            writer.close();
        } catch (Exception e){
            System.out.println("Error: can't write to " + fileName);
            System.exit(0);
        }
    }
    public static void main (String [] args){
        //Question 13
        readFile("input.txt");
        writeFile("output.txt", persons);

        //extra practice solutions:
        People person0 = new People ("Jimmy", "John", 26, "Oregon");
        People person1 = new People ("Ronald", "McDonald",
                                     76, "California");
        People person2 = new People ("Harry", "Potter", 29, "Washington");
        People [] famousPeople = {person0, person1, person2};
        for (int i = 0; i < famousPeople.length; i++)
            System.out.println(famousPeople[i]);
        //Could also print using Arrays.toString() it will just print
        //without new lines and with [ ] surrounding each element
        //System.out.println(Arrays.toString(famousPeople));
    }
}
```

1.2 Console Output

Note: if you didn't do the extra practice solutions, you should not get any output printed, look instead at the output.txt file.

Console output (with extra practice solutions):

```
Name: Jimmy John, Age: 26, State: Oregon
Name: Ronald McDonald, Age: 76, State: California
Name: Harry Potter, Age: 29, State: Washington
```

Contents of output.txt:
Note: each person is on different lines in output.txt, they just don't fit on this page width. There is only one space separating each name, age, and state.

```
Name: Snow White, Age: 93, State: Some cottage
Name: Cinderella Unknown Last Name, Age: 85, State: The basement closet in
    a castle
Name: Sleeping Beauty, Age: 73, State: in the woods on a table
Name: Belle soon to be Beast, Age: 42, State: Dark, scary castle with a
    Beast
Name: Ariel Under the Sea, Age: 43, State: one of the five oceans on Earth
Name: Pocahontas (Wow, disney princesses don't come with last names), Age:
    39, State: A forest with a tree
Name: Fa Mulan, Age: 34, State: China
Name: Rapunzel the one with long hair, Age: 24, State: A really tall castle
Name: Elsa from Frozen, Age: 24, State: A really cold place
Name: Jasmine last name is unknown, Age: 40, State: Arabian city
```