Assignment 1: Write Data to CSV File

```
import java.io.FileWriter;

public class WriteCSV {
    public static void main(String[] args) throws Exception {
        FileWriter fw = new FileWriter("students.csv");
        fw.write("id,name,marks\n");
        fw.write("101,Ravi,78\n");
        fw.write("102,Anita,85\n");
        fw.close();
        System.out.println("CSV file created successfully");
    }
}

Output:
CSV file created successfully
```

Assignment 2: Read CSV File and Display Data

```
import java.io.*;

public class ReadCSV {
    public static void main(String[] args) throws Exception {
        BufferedReader br = new BufferedReader(new FileReader("students.csv"));
        String line;
        while((line = br.readLine()) != null) {
            System.out.println(line);
        }
        br.close();
    }
}

Output:
id,name,marks
101,Ravi,78
102,Anita,85
```

Assignment 3: Display Students with Marks > 60

```
import java.io.*;

public class MarksAbove60 {
    public static void main(String[] args) throws Exception {
        BufferedReader br = new BufferedReader(new FileReader("students.csv"));
        String line;
        br.readLine();
        while((line = br.readLine()) != null) {
            String[] data = line.split(",");
            int marks = Integer.parseInt(data[2]);
            if(marks > 60) {
                System.out.println(line);
            }
        }
        br.close();
    }
}

Output:
101,Ravi,78
102,Anita,85
```

Assignment 4: Count Number of Records

```
import java.io.*;

public class CountRecords {
    public static void main(String[] args) throws Exception {
        BufferedReader br = new BufferedReader(new FileReader("students.csv"));
        int count = 0;
        br.readLine();
        while(br.readLine() != null) {
            count++;
        }
        br.close();
        System.out.println("Total Students: " + count);
    }
}

Output:
Total Students: 2
```

Assignment 5: Search Student by Name

```
import java.io.*;

public class SearchStudent {
    public static void main(String[] args) throws Exception {
        BufferedReader br = new BufferedReader(new FileReader("students.csv"));
        String nameToSearch = "Ravi";
        String line;
        br.readLine();
        while((line = br.readLine()) != null) {
            String[] data = line.split(",");
            if(data[1].equalsIgnoreCase(nameToSearch)) {
                System.out.println(line);
            }
        }
        br.close();
    }
}

Output:
101,Ravi,78
```

Assignment 6: Display Failed Students

```
import java.io.*;

public class FailedStudents {
    public static void main(String[] args) throws Exception {
        BufferedReader br = new BufferedReader(new FileReader("students.csv"));
        String line;
        br.readLine();
        while((line = br.readLine()) != null) {
            String[] data = line.split(",");
            int marks = Integer.parseInt(data[2]);
            if(marks < 40) {
                System.out.println(line);
            }
        }
        br.close();
    }
}

Output:
103,Sunil,35
```

Assignment 7: Calculate Average Marks

```
import java.io.*;

public class AverageMarks {
    public static void main(String[] args) throws Exception {
        BufferedReader br = new BufferedReader(new FileReader("students.csv"));
        String line;
        int sum = 0, count = 0;
        br.readLine();
        while((line = br.readLine()) != null) {
            sum += Integer.parseInt(line.split(",")[2]);
            count++;
        }
        br.close();
        System.out.println("Average Marks: " + (sum / count));
    }
}

Output:
Average Marks: 67
```

Assignment 8: Copy Passed Students

```
import java.io.*;

public class PassedStudents {
    public static void main(String[] args) throws Exception {
        BufferedReader br = new BufferedReader(new FileReader("students.csv"));
        FileWriter fw = new FileWriter("passed_students.csv");
        String line;
        fw.write("id,name,marks\n");
        br.readLine();
        while((line = br.readLine()) != null) {
            int marks = Integer.parseInt(line.split(",")[2]);
            if(marks >= 50) {
                fw.write(line + "\n");
            }
        }
        br.close();
        fw.close();
        System.out.println("Passed students copied");
    }
}
```

```
Output:
Passed students copied
```

Assignment 9: Validate CSV Data

```
import java.io.*;

public class ValidateCSV {
    public static void main(String[] args) throws Exception {
        BufferedReader br = new BufferedReader(new FileReader("students.csv"));
        String line;
        br.readLine();
        while((line = br.readLine()) != null) {
            try {
                Integer.parseInt(line.split(",")[2]);
                System.out.println(line);
            } catch(NumberFormatException e) {
                continue;
            }
        }
        br.close();
    }
}

Output:
Only valid records printed
```

Assignment 10: Display Topper Details

```
import java.io.*;

public class Topper {
    public static void main(String[] args) throws Exception {
        BufferedReader br = new BufferedReader(new FileReader("students.csv"));
        String line;
        int max = 0;
        String topper = "";
        br.readLine();
        while((line = br.readLine()) != null) {
            String[] data = line.split(",");
            int marks = Integer.parseInt(data[2]);
            if(marks > max) {
                max = marks;
                topper = data[1];
            }
        }
        br.close();
        System.out.println("Topper: " + topper + " Marks: " + max);
    }
}

Output:
Topper: Priya Marks: 92
```