

## Map.java

```
package edu.wmich.cs3310.a6.DrivingApp;
/*
 * CS3310 A5
 * Asgn 6 (CS3310 F15)
 * @author Jonah Groendal
 * Last changed: 12/9/2015
 */
import java.io.*;

public class Map {
    RandomAccessFile cityNames;
    RandomAccessFile map;
    short n;

    public Map(String cityNames, String map) throws IOException{
        this.cityNames = new RandomAccessFile(new File(cityNames), "r");
        this.map = new RandomAccessFile(new File(map), "r");
        n = this.map.readShort();
    }

    public String getCityName(short cityNumber) throws IOException {
        String cityName = "";
        cityNames.seek(15*cityNumber);
        for (int i=0; i<10; i++) {
            cityName = cityName + (char)cityNames.read();
        }
        return cityName;
    }

    public String getCityCode(short cityNumber) throws IOException {
        String cityCode = "";
        cityNames.seek(15*cityNumber+11);
        for (int i=0; i<3; i++) {
            cityCode = cityCode + (char)cityNames.read();
        }
        return cityCode;
    }

    public int getCityNumber(String cityName) throws IOException {
        cityName = String.format("%-10s", cityName);
        int loc = -1;
        int count = 0;
        String tempName;
        cityNames.seek(0);
        while (loc == -1 && cityNames.getFilePointer() < (cityNames.length()-6))
        {
            tempName = "";
            for (int i=0; i<10; i++) {
                tempName = tempName + (char)cityNames.read();
            }
        }
    }
}
```

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    }
    if (cityName.equals(tempName)) {
        loc = count;
    }
    count++;
    cityNames.seek(cityNames.getFilePointer()+5);
}
return loc;
}
public Short getRoadDistance(int start, int end) throws IOException {
    int temp, desiredIndex;
    if (start == -1 || end == -1)
        return -1;
    if (end < start) {
        temp = end;
        end = start;
        start = temp;
    }
    else if (start == end) {
        return 0;
    }
    desiredIndex = 2*((n-1)*n/2 - ((20-start)*(21-start)/2) + (end-start));
    map.seek(desiredIndex);
    return map.readShort();
}
public short getN() {
    return n;
}
}
```