Michael Wells

Module 10 Design

08/04/19

**Reformat**

First, part of my program takes in run time arguments for the text file location the location to write the reformatted byte file, and the number of records to read from the text file. Then I define the arrays that will be populated as I read in lines from the text file, stateArray(string) populationArray(int), childPopulationArray(int), and povertyArray(int). I then use BufferedReader and FileReader to read the text file line by line. I parse the line using the sub string method and populate the corresponding arrays. To write the data with its primitive type I used DataOuputStream, using writeUTF for the state string, and writeInt for the integer data.

**Report**

First, I take in the run time arguments for the location of the byte file and the number of records to read in. I used DataInputStream, with BufferedInputStream and FileInputStream to read in the byte file, matching the methods I used to write it. I used readUTF, and readInt and populated arrays for state, population, childPopulation, and childPoverty. To summarize the data I looped through the state array, if the value is the same as the previous value, meaning the line I am reading belongs to the same state as the previous line I summed up there integer values for population, child population, and child poverty population. If the state id is different than the previous state I would take the summed values of the previous state and add it to an array of the totals for each state. Once, I had totals for each state for population, child population, and child poverty, I divided the child poverty population by the total child population to get % of child poverty. To do this I had to cast this integer value to a floating value. I then printed a header and the data for each state. In the assignment description, it said we should output something **similar** to the example given. Although mine is slightly different, I believe it is similar, and the data is correct. I probably could’ve skipped populating the array’s and just summarize the data as I read it in but it made it easier for me work with the data.