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package org.myorg;

import java.io.IOException;
import java.util.*;

import org.apache.hadoop.fs.Path;
import org.apache.hadoop.conf.*;
import org.apache.hadoop.io.*;
import org.apache.hadoop.mapred.*;
import org.apache.hadoop.util.*;

public class Query_2 {

    public static class Map extends MapReduceBase implements Mapper<LongWritable, Text, IntWritable, Text> {
        private IntWritable custID = new IntWritable();
        private Text transTotal = new Text();

        public void map(LongWritable key, Text value, OutputCollector<IntWritable, Text> output, Reporter reporter) throws IOException {
            String line = value.toString();
            StringTokenizer tokenizer = new StringTokenizer(line, " "); //the space is the default delimiter
            tokenizer.nextToken();
            //assign the value of the second attribute, custID, to custID
            custID.set(Integer.parseInt(tokenizer.nextToken()));
            //assign the value of the third attribute, TransTotal, to
            transTotal.set("1,"+tokenizer.nextToken());
            output.collect(custID, transTotal); //adds the key-value pair to the output
        }
    }

    public static class Reduce extends MapReduceBase implements Reducer<IntWritable, Text, IntWritable, Text> {
        public void reduce(IntWritable key, Iterator<Text> values, OutputCollector<IntWritable, Text> output, Reporter reporter) throws IOException {
            Integer numTrans = 0;
            Float totalSum = (Float) 0;
            String strTotalSum;

            while (values.hasNext()) {
                strTotalSum = values.next().toString();
                StringTokenizer tokenizer = new StringTokenizer(strTotalSum, ",");
                numTrans += Integer.parseInt(tokenizer.nextToken());
                totalSum += Float.parseFloat(tokenizer.nextToken());
            }

            Text numTrans_totalSum = new Text(numTrans.toString()+" "+totalSum.toString());
            output.collect(key, numTrans_totalSum);
        }
    }

    public static void main(String[] args) throws Exception {
        JobConf conf = new JobConf(Query_2.class);
        conf.setJobName("Query_2");

        conf.setOutputKeyClass(IntWritable.class);
        conf.setOutputValueClass(Text.class);

        conf.setMapperClass(Map.class);
        conf.setCombinerClass(Reduce.class);
        conf.setReducerClass(Reduce.class);

        conf.setInputFormat(TextInputFormat.class);
        conf.setOutputFormat(TextOutputFormat.class);

        FileInputFormat.setInputPaths(conf, new Path(args[0])); //args[0] => /usr/joe/wordcount/input
        FileOutputFormat.setOutputPath(conf, new Path(args[1])); //args[1] => /usr/joe/wordcount/

        JobClient.runJob(conf); //Normally the user creates the application, describes various facets of the job via JobConf
        //then uses the JobClient to submit the job and monitor its progress.
    }
}

```