import java.io.IOException;

import org.apache.hadoop.conf.Configuration;

import org.apache.hadoop.fs.Path;

import org.apache.hadoop.io.IntWritable;

import org.apache.hadoop.io.Text;

import org.apache.hadoop.mapreduce.Job;

import org.apache.hadoop.mapreduce.Mapper;

import org.apache.hadoop.mapreduce.Reducer;

import org.apache.hadoop.mapreduce.lib.input.FileInputFormat;

import org.apache.hadoop.mapreduce.lib.output.FileOutputFormat;

public class TienDien {

public static class AvgElectricityMapper extends Mapper<Object, Text, Text, IntWritable> {

private Text year = new Text();

private IntWritable avgConsumption = new IntWritable();

public void map(Object key, Text value, Context context) throws IOException, InterruptedException {

String[] fields = value.toString().split(",");

year.set(fields[0]);

int sum = 0;

for (int i = 1; i < fields.length; i++) {

sum += Integer.parseInt(fields[i]);

}

int average = sum / (fields.length - 1);

avgConsumption.set(average);

context.write(year, avgConsumption);

}

}

public static class AvgElectricityReducer extends Reducer<Text, IntWritable, Text, IntWritable> {

public void reduce(Text key, Iterable<IntWritable> values, Context context) throws IOException, InterruptedException {

for (IntWritable val : values) {

if (val.get() > 30) {

context.write(key, val);

}

}

}

}

public static void main(String[] args) throws Exception {

Configuration conf = new Configuration();

Job job = Job.getInstance(conf, "Tinh trung binh tieu thu dien");

job.setJarByClass(TienDien.class);

job.setMapperClass(AvgElectricityMapper.class);

job.setReducerClass(AvgElectricityReducer.class);

job.setOutputKeyClass(Text.class);

job.setOutputValueClass(IntWritable.class);

FileInputFormat.addInputPath(job, new Path(args[0]));

FileOutputFormat.setOutputPath(job, new Path(args[1]));

System.exit(job.waitForCompletion(true) ? 0 : 1);

}

}