```
package ElectConsum;

import java.io.IOException;
import org.apache.hadoop.conf.Configuration;
import org.apache.hadoop.fs.Path;
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;
import org.apache.hadoop.util.GenericOptionsParser;

public class MaxElectricCSV {
    public static void main(String[] args) throws Exception {
        Configuration conf = new Configuration();
        String[] files = new GenericOptionsParser(conf, args).getRemainingArgs();
        if (files.length < 2) {
            System.err.println("Usage: MaxElectricCSV <input path> <output path>");
            System.exit(-1);
        }
        Path input = new Path(files[0]);
        Path output = new Path(files[1]);

        Job job = Job.getInstance(conf, "Max Electricity Consumption per Year");
        job.setJarByClass(MaxElectricCSV.class);
        job.setMapperClass(MaxElectricMapper.class);
        job.setReducerClass(MaxElectricReducer.class);
        job.setOutputKeyClass(Text.class);
        job.setOutputValueClass(Text.class);

        FileInputFormat.addInputPath(job, input);
        FileOutputFormat.setOutputPath(job, output);

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

    public static class MaxElectricMapper extends Mapper<Object, Text, Text, Text> {
        private boolean isHeader = true;
        private String[] headers;

        public void map(Object key, Text value, Context context) throws IOException,
InterruptedException {
            String line = value.toString().trim();
            if (isHeader) {
                headers = line.split(",");
                isHeader = false;
                return;
            }

            String[] columns = line.split(",");
            if (columns.length < 3) return;
            String state = columns[0].replaceAll("\"", "").trim();
            if (state.equalsIgnoreCase("India")) return;

            for (int i = 1; i < columns.length; i++) {
                String year = headers[i].replaceAll("\"", "").trim();
                try {
                    int consumption = Integer.parseInt(columns[i].replaceAll("\"", "").trim());
                    context.write(new Text(year), new Text(state + "," + consumption));
                } catch (NumberFormatException e) {
                }
            }
        }
    }

    public static class MaxElectricReducer extends Reducer<Text, Text, Text, Text> {
        public void reduce(Text key, Iterable<Text> values, Context context) throws IOException,
InterruptedException {
            int maxConsumption = Integer.MIN_VALUE;
            String maxState = "";

            for (Text value : values) {
                String[] parts = value.toString().split(",");
                if (parts.length < 2) continue;

                String state = parts[0].trim();
                int consumption = Integer.parseInt(parts[1].trim());

                if (consumption > maxConsumption) {
                    maxConsumption = consumption;
                    maxState = state;
                }
            }

            context.write(key, new Text("State: " + maxState + ", Max Consumption: " +
maxConsumption));
        }
    }
}
```

Output

```
[cloudera@quickstart Mock_33312]$ hadoop fs -cat Mock1/part-r-00000
2004	State: Goa, Max Consumption: 305
2005	State: Haryana, Max Consumption: 934
2006	State: India, Max Consumption: 514
2007	State: Haryana, Max Consumption: 915
2008	State: Goa, Max Consumption: 357
2009	State: Uttarakhand, Max Consumption: 992
2010	State: Assam, Max Consumption: 955
2011	State: Assam, Max Consumption: 980
```

2012	State: Assam, Max Consumption: 979
2013	State: Assam, Max Consumption: 979
2014	State: Tripura, Max Consumption: 627
2015	State: Uttar Pradesh, Max Consumption: 984
2016	State: Maharashtra, Max Consumption: 22
2017	State: Haryana, Max Consumption: 985
2018	State: India, Max Consumption: 965
2019	State: Odisha, Max Consumption: 996
2020	State: India, Max Consumption: 59
2021	State: Andhra Pradesh, Max Consumption: 949
2022	State: Maharashtra, Max Consumption: 34
2023	State: Himachal Pradesh, Max Consumption: 986
2024	State: India, Max Consumption: 626
2025	State: Gujarat, Max Consumption: 961
2026	State: India, Max Consumption: 99
2027	State: Bihar, Max Consumption: 985
2028	State: India, Max Consumption: 2
2029	State: India, Max Consumption: 23
2030	State: India, Max Consumption: 344
2031	State: India, Max Consumption: 2
2032	State: India, Max Consumption: 45
2033	State: India, Max Consumption: 259
2034	State: India, Max Consumption: 2
2035	State: India, Max Consumption: 71
2036	State: India, Max Consumption: 722
2037	State: India, Max Consumption: 2
2038	State: India, Max Consumption: 98
2039	State: India, Max Consumption: 60