***NAME : HRITIK SINGH***

***USN : 1BM19CS063***

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***SECTION : B***

***SEM : 6***

***BATCH : 1***

**PROGRAM : ODD \_EVEN MAP REDUCE**

**BDA LAB TEST 2 INPUT :-**

**DRIVER INPUT :-**

|  |
| --- |
| import org.apache.hadoop.conf.Configured; |
|  | import org.apache.hadoop.fs.Path; |
|  | import org.apache.hadoop.io.IntWritable; |
|  | import org.apache.hadoop.io.Text; |
|  | import org.apache.hadoop.mapred.FileInputFormat; |
|  | import org.apache.hadoop.mapred.FileOutputFormat; |
|  | import org.apache.hadoop.mapred.JobClient; |
|  | import org.apache.hadoop.mapred.JobConf; |
|  | import org.apache.hadoop.util.Tool; |
|  | import org.apache.hadoop.util.ToolRunner; |
|  |  |
|  | public class OddEvenDriver extends Configured implements Tool { |
|  |  |
|  | @Override |
|  | public int run(String[] args) throws Exception |
|  | { |
|  | if (args.length < 2) |
|  | { |
|  | System.out.println("Please enter valid arguments"); |
|  | return -1; |
|  | } |
|  |  |
|  | JobConf conf = new JobConf(OddEvenDriver.class); |
|  | FileInputFormat.setInputPaths(conf, new Path(args[0])); |
|  | FileOutputFormat.setOutputPath(conf, new Path(args[1])); |
|  | conf.setMapperClass(OddEvenMapper.class); |
|  | conf.setReducerClass(OddEvenReducer.class); |
|  | conf.setMapOutputKeyClass(Text.class); |
|  | conf.setMapOutputValueClass(IntWritable.class); |
|  | conf.setOutputKeyClass(Text.class); |
|  | conf.setOutputValueClass(IntWritable.class); |
|  |  |
|  | JobClient.runJob(conf); |
|  | return 0; |
|  | } |
|  |  |
|  | public static void main(String args[]) throws Exception |
|  | { |
|  | int exitcode = ToolRunner.run(new OddEvenDriver(), args); |
|  | System.out.println(exitcode); |
|  | } |
|  | } |

**MAPPER INPUT :-**

|  |
| --- |
| import java.io.IOException; |
|  | import org.apache.hadoop.io.IntWritable; |
|  | import org.apache.hadoop.io.LongWritable; |
|  | import org.apache.hadoop.io.Text; |
|  | import org.apache.hadoop.mapred.MapReduceBase; |
|  | import org.apache.hadoop.mapred.Mapper; |
|  | import org.apache.hadoop.mapred.OutputCollector; |
|  | import org.apache.hadoop.mapred.Reporter; |
|  |  |
|  | public class OddEvenMapper extends MapReduceBase implements Mapper<LongWritable, |
|  | Text, Text, IntWritable> { |
|  |  |
|  | @Override |
|  |  |
|  | public void map(LongWritable key, Text value, OutputCollector<Text, |
|  | IntWritable> output, Reporter rep) |
|  |  |
|  | throws IOException |
|  | { |
|  |  |
|  | String data[] = value.toString().split(" "); |
|  |  |
|  | for (String num : data) |
|  | { |
|  |  |
|  | int number = Integer.parseInt(num); |
|  |  |
|  | if (number % 2 == 1) |
|  | { |
|  |  |
|  | output.collect(new Text("ODD"), new IntWritable(number)); |
|  | } |
|  |  |
|  | else |
|  | { |
|  |  |
|  | output.collect(new Text("EVEN"), |
|  | new IntWritable(number)); |
|  | } |
|  | } |
|  | } |
|  | } |

**REDUCER INPUT :-**

|  |
| --- |
| import java.io.IOException; |
|  | import java.util.Iterator; |
|  | import org.apache.hadoop.io.IntWritable; |
|  | import org.apache.hadoop.io.Text; |
|  | import org.apache.hadoop.mapred.MapReduceBase; |
|  | import org.apache.hadoop.mapred.OutputCollector; |
|  | import org.apache.hadoop.mapred.Reducer; |
|  | import org.apache.hadoop.mapred.Reporter; |
|  |  |
|  | public class OddEvenReducer extends MapReduceBase implements Reducer<Text, |
|  | IntWritable, Text, IntWritable> { |
|  |  |
|  | @Override |
|  |  |
|  | public void reduce(Text key, Iterator<IntWritable> value, |
|  | OutputCollector<Text, IntWritable> output, Reporter rep) |
|  |  |
|  | throws IOException |
|  | { |
|  |  |
|  |  |
|  | int sum = 0, count = 0; |
|  | if (key.equals("ODD")) |
|  | { |
|  | while (value.hasNext()) |
|  | { |
|  | IntWritable i = value.next(); |
|  |  |
|  |  |
|  | sum += i.get(); |
|  | count++; |
|  | } |
|  | } |
|  |  |
|  | else |
|  | { |
|  | while (value.hasNext()) |
|  | { |
|  | IntWritable i = value.next(); |
|  |  |
|  |  |
|  | sum += i.get(); |
|  | count++; |
|  | } |
|  | } |
|  |  |
|  |  |
|  |  |
|  | output.collect(key, new IntWritable(count)); |
|  | } |
|  | } |