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package Access;

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.mapreduce.Mapper;

public class ALMapper extends Mapper <LongWritable,Text,Text,IntWritable> {

    public void map(LongWritable key, Text value, Context con) throws IOException,
    InterruptedException {

        String [ ] Log = value.toString().split("-");

        con.write(new Text(Log[0]),new IntWritable(1));

    }
}

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package Access;

import java.io.IOException;
import org.apache.hadoop.io.IntWritable;
import org.apache.hadoop.io.Text;
import org.apache.hadoop.mapreduce.Reducer;

public class ALReducer extends Reducer <Text,IntWritable,Text,IntWritable> {

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

        int sum=0;

        //find sum of occurrences
        for( IntWritable value:values) {
            sum+=value.get();
        }

        con.write(t, new IntWritable(sum));

    }
}

```

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package Access;

import java.io.IOException;
import org.apache.hadoop.conf.Configuration;
import org.apache.hadoop.fs.FSDataInputStream;
import org.apache.hadoop.fs.FileStatus;
import org.apache.hadoop.fs.FileSystem;
import org.apache.hadoop.fs.Path;

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import org.apache.hadoop.io.IntWritable;
import org.apache.hadoop.io.Text;
import org.apache.hadoop.mapreduce.Job;
import org.apache.hadoop.mapreduce.lib.input.FileInputFormat;
import org.apache.hadoop.mapreduce.lib.output.FileOutputFormat;

public class ALDriver {

    @SuppressWarnings("deprecation")
    public static void main(String[] args) throws IOException, ClassNotFoundException,
    InterruptedException {

        Configuration conf=new Configuration();
        Job job=new Job(conf);

        job.setJarByClass(ALDriver.class);
        job.setMapperClass(ALMapper.class);
        job.setReducerClass(ALReducer.class);
        job.setOutputKeyClass(Text.class);
        job.setOutputValueClass(IntWritable.class);
        job.setOutputKeyClass(Text.class);
        job.setOutputValueClass(IntWritable.class);

        FileInputFormat.addInputPath(job, new Path(args[0]));
        FileOutputFormat.setOutputPath(job, new Path(args[1]));

        job.waitForCompletion(true);

        FileSystem fs=FileSystem.get(conf);
        FileStatus[] status=fs.listStatus(new Path("hdfs://localhost:9000"+args[1]));
        FSDataInputStream fd=fs.open(status[1].getPath());
        System.out.println(status);

        int max=0;
        String ip="";
        String str=fd.readLine();
        do {
            String parts[]=str.split(" ");
            //find most occurred IP
            if(max<Integer.parseInt(parts[1])) {

                max=Integer.parseInt(parts[1]);
                ip=parts[0];
            }
            str=fd.readLine();

        }while(str != null);

        System.out.println("IP address: " + ip);
    }
}

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System.out.println("No. of occurrences: " + max);
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}
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}
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