

Program#3: word count program

WordCountMapper.java

```
import java.io.IOException;

import org.apache.hadoop.io.LongWritable;

import org.apache.hadoop.io.Text;

import org.apache.hadoop.mapreduce.Mapper;

public class WordCountMapper extends

    Mapper<LongWritable, Text, Text, LongWritable> {

    private final static LongWritable one = new LongWritable(1);

    @Override

    protected void map(LongWritable key, Text value, Context context)

        throws IOException, InterruptedException {

        String line = value.toString();

        String[] words = line.split(" ");

        for (int i = 0; i < words.length; i++) {

            context.write(new Text(words[i]), one);

        }

    }

}
```

WordCountReducer.java

```
import java.io.IOException;

import org.apache.hadoop.io.LongWritable;

import org.apache.hadoop.mapreduce.Reducer;

import org.apache.hadoop.io.Text;

public class WordCountReducer extends Reducer<Text,LongWritable,Text,LongWritable>

{

    @Override

    protected void reduce(Text key,Iterable<LongWritable> value,Context context)throws IOException,In

    {

        long sum=0;

        while(value.iterator().hasNext())

        {

            sum+=value.iterator().next().get();

        }

        context.write(key,new LongWritable(sum));

    }

}
```

```
}
```

WordCountJob.java

```
import org.apache.hadoop.conf.Configuration;

import org.apache.hadoop.fs.Path;

import org.apache.hadoop.io.LongWritable;

import org.apache.hadoop.mapreduce.Job;

import org.apache.hadoop.io.Text;

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

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

import org.apache.hadoop.util.ToolRunner;

import org.apache.hadoop.util.Tool;

public class WordCountJob implements Tool{

    private Configuration conf;

    @Override

    public Configuration getConf()

    {

        return conf;

    }

    @Override

    public void setConf(Configuration conf)

    {

        this.conf=conf;

    }

    @Override

    public int run(String []args)throws Exception

    {

        Job wordcountjob=new Job(getConf());

        wordcountjob.setJobName("WordCountJob");

        wordcountjob.setJarByClass(this.getClass());

        wordcountjob.setMapperClass(WordCountMapper.class);

        wordcountjob.setReducerClass(WordCountReducer.class);

        wordcountjob.setMapOutputKeyClass(Text.class);

        wordcountjob.setMapOutputValueClass(LongWritable.class);

        wordcountjob.setOutputKeyClass(Text.class);

        wordcountjob.setOutputValueClass(LongWritable.class);

        FileInputFormat.setInputPaths(wordcountjob,new Path(args[1]));
```

```
        FileOutputFormat.setOutputPath(wordcountjob,new Path(args[2]));

        return wordcountjob.waitForCompletion(true)==true? 0:1;
    }

    public static void main(String []args)throws Exception
    {
        ToolRunner.run(new Configuration(),new WordCountJob(),args);
    }
}
```