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Section:- DS

Subject:- Hadoop fundamentals lab.

**Map-Reduce Program**

**Driver Code:-**

import java.io.IOException;

import org.apache.hadoop.fs.FileSystem;

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.lib.input.FileInputFormat;

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

public class Driver\_Ashutosh {

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

Job j = new Job();

j.setJobName("freq counter");

j.setJarByClass(Driver.class);

j.setMapperClass(MyMapper.class);

j.setReducerClass(MyReducer.class);

j.setOutputKeyClass(Text.class);

j.setOutputValueClass(IntWritable.class);

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

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

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

}

}

**Mapper Code:-**

import java.io.IOException;

import org.apache.hadoop.io.DoubleWritable;

import org.apache.hadoop.io.IntWritable;

import org.apache.hadoop.io.LongWritable;

import org.apache.hadoop.io.Text;

import org.apache.hadoop.mapreduce.Mapper;

import org.apache.hadoop.mapreduce.Mapper.Context;

public class Mapper\_Ashutosh extends Mapper<LongWritable, Text, Text, IntWritable> {

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

String inputstring = value.toString();

for (String x : inputstring.split(" ")) {

if (x.equals("Apple") || x.equals("Banana") || x.equals("Grapes")) {

context.write(new Text(x), new IntWritable(1));

}

}

}

}

**Reducer Code:-**

import java.io.IOException;

import org.apache.hadoop.io.IntWritable;

import org.apache.hadoop.io.Text;

import org.apache.hadoop.mapreduce.Reducer;

import org.apache.hadoop.mapreduce.Reducer.Context;

public class Reducer\_Ashutosh extends Reducer<Text, IntWritable, Text, IntWritable>{

public void reduce(Text key, Iterable<IntWritable> values, Context context)

throws IOException, InterruptedException {

int y = 0;

for(IntWritable x : values)

{

y ++;

}

context.write(key, new IntWritable(y) );

}

}

**Input:-**

Yesterday I was not feeling well so I went to consult a doctor, after a few checkups he told me that my diet is not balanced and told me to eat as much as Apple , Banana and Grape as much as possible.

The reason being why he prescribed me Apple ,Banana and Grapes along with is that all this fruits I.e. Apple , Banana and Grapes contains nutrients that are required for proper functioning of body.

Apple contains vitamin A,B12,C.

Grapes contains vitamin C,k.

Banana contains vitamin B1,B6,B2.

Among Apple , Banana and Grapes I like Apple the most

**Output**

Apple 6

Banana 5

Grapes 5