1.Odd Even Sum

driver.java

```
package oddeven;
import java.io.*;
import java.util.*;
import org.apache.hadoop.mapred.*;
import org.apache.hadoop.io.*;
import org.apache.hadoop.fs.Path;

public class driver
{
   public static void main(String args[]) throws IOException
   {
         JobConf conf=new JobConf(driver.class);
         conf.setMapperClass(mapper.class);
         conf.setReducerClass(reducer.class);
         conf.setOutputKeyClass(Text.class);
         conf.setOutputValueClass(IntWritable.class);
         FileInputFormat.addInputPath(conf, new Path(args[0]));
         FileOutputFormat.setOutputPath(conf,new Path(args[1]));
         JobClient.runJob(conf);
   }
}
```

mapper.java

```
package oddeven;
import java.io.*;
import java.util.*;
import org.apache.hadoop.mapred.*;
import org.apache.hadoop.io.*;

public class mapper extends MapReduceBase implements Mapper<LongWritable , Text , Text
,IntWritable>
{
   public void map(LongWritable key,Text
value,OutputCollector<Text,IntWritable>output,Reporter r) throws IOException
   {
```

```
        String[] line=value.toString().split(" ");
        for(String num:line){
                int number=Integer.parseInt(num);
                if(number%2==0) {
                        output.collect(new Text("even"),new IntWritable(number));
                }
               else{
                        output.collect(new Text("odd"),new IntWritable(number));
                }
        }
   }
}
```

reducer.java

```
package oddeven;
import java.io.*;
import java.util.*;
import org.apache.hadoop.mapred.*;
import org.apache.hadoop.io.*;
public class reducer extends MapReduceBase implements
Reducer<Text,IntWritable,Text,IntWritable>
{
   public void reduce(Text key,Iterator<IntWritable>value,OutputCollector<Text,IntWritable>
output ,Reporter r) throws IOException
   {
         int sum=0,count=0;
         while(value.hasNext()){
                sum+=value.next().get();
                count++;
         }
        output.collect(new Text("Sum of "+key+" Numbers"),new IntWritable(sum));
        output.collect(new Text(key+" Number count"),new IntWritable(count));
   }
}
```

oe.txt

1 2 3 4 5 6 7 8 9 10

Steps to run

1. Create a New File named Bash.sh

2. Copy the Below code and Paste inside Bash.sh and save that File.

```
export JAVA_HOME=$(readlink -f $(which javac) | awk 'BEGIN {FS="/bin"} {print $1}')
export PATH=$(echo $PATH):$(pwd)/bin
export CLASSPATH=$(hadoopclasspath)
```

3. Execute the bash.sh File using following command source Bash.sh.
4. Verify JAVA_HOME variable to be set to Java Path and PATH variable has your USN Hadoop Folder.If any previous PATH set to Hadoop Folder remove that inside .bashrc file.
5. Verify Hadoop is Installed or not by executing hadoopcommand.if command gives Information about Hadoop command then Hadoop is Successfully Installed.
6. Create a folder oddeven and move to that folder
7. Make the driver.java , mapper.java and reducer.java files
8. Compile all java files (driver.java mapper.java reducer.java)

```
javac -d . *.java
```

9. Set driver class in manifest

```
echo Main-Class: oddeven.driver> Manifest.txt
```

10. Create an executable jar file

```
jar cfm oddeven.jar Manifest.txt oddeven/*.class
```

11. oe.txt is input file for Oddeven create Input File

```
echo 1 2 3 4 5 6 7 8 9 10 > oe.txt
```

12. Run the jar file

```
hadoop jar oddeven.jar oe.txt output
```

13. To see the Output

```
cat output/*
```