하둡2.7.2 설치하기 - (3) 자바코드

```
/// ********************************************************************************************** ///
// 드라이버 클래스입니다.
// HWEx13.java
import org.apache.hadoop.conf.Configuration;
import org.apache.hadoop.fs.Path;
import org.apache.hadoop.io.FloatWritable;
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.input.TextInputFormat;
import org.apache.hadoop.mapreduce.lib.output.FileOutputFormat;
import org.apache.hadoop.mapreduce.lib.output.TextOutputFormat;

public class HWEx13 {
  public static void main(String[] args) throws Exception {
    Configuration conf = new Configuration();
    // 입출력 데이터의 경로를 확인합니다.
    // 입력한 index의 개수가 2개인지 검사합니다.
    // index가 2가 아니면 에러메세지 출력하고 강제종료합니다.
    if (args.length != 2) {
      System.err.println("Usage: HWEx13 <input> <output>");
      System.exit(2);
    }
    // Job 이름 설정
    Job job = new Job(conf, "HWEx13");

    // 입출력 데이터 경로 설정
    FileInputFormat.addInputPath(job, new Path(args[0]));
    FileOutputFormat.setOutputPath(job, new Path(args[1]));

    // Job 클래스 설정
    job.setJarByClass(HWEx13.class);
    // Mapper 클래스 설정
    job.setMapperClass(HomeworkMapper.class);
    // Reducer 클래스 설정
    job.setReducerClass(HomeworkReducer.class);

    // 입출력 데이터 포맷 설정
    job.setInputFormatClass(TextInputFormat.class);
    job.setOutputFormatClass(TextOutputFormat.class);

    // 출력키 및 출력값 유형 설정
    job.setOutputKeyClass(Text.class);
    job.setOutputValueClass(FloatWritable.class);

    job.waitForCompletion(true);
  }
}

/// ********************************************************************************************** ///
```

```
/// ********************************************************************************************** ///
// 매퍼를 구현했습니다.
// 온도와 습도 날짜를 출력했습니다.
// HomeworkMapper.java
import org.apache.hadoop.io.FloatWritable;
import org.apache.hadoop.io.LongWritable;
import org.apache.hadoop.io.Text;
import org.apache.hadoop.mapreduce.Mapper;
import java.io.IOException;

// 데이터 타입 정의
// 입력데이터 키 / 입력 데이터 값 / 출력 데이터 키        / 출력 데이터 값
// LongWritable   / Text            / Text                / FloatWritable
public class HomeworkMapper extends Mapper<LongWritable, Text, Text, FloatWritable> {
  // 맵 출력값
  private final static FloatWritable outputValue = new FloatWritable(1);
  // 맵 출력키
  private Text outputKey = new Text();

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

        HomeworkDTH parser = new HomeworkDTH(value);

        // 출력키를 설정합니다.
        // temp, humid, date를 출력합니다.
        outputKey.set( "Temp : " + parser.getTemp() + ",       Humid : " + parser.getHumid() + ",       Date : " + parser.getDate());

        context.write(outputKey, outputValue);
  }
}
/// ********************************************************************************************** ///



/// ********************************************************************************************** ///
// 제가 작업할 데이터에서는 리듀서를 사용할 필요는 없었지만...
// 굳이 리듀스를 사용해보기 위해서 '--- Hadoop2 Homework'를 출력하도록 했습니다.
// HomeworkReducer.java
import org.apache.hadoop.io.FloatWritable;
import org.apache.hadoop.io.Text;
import org.apache.hadoop.mapreduce.Reducer;
import java.io.IOException;

//데이터 타입 정의
//입력데이터 키 / 입력 데이터 값 / 출력 데이터 키        / 출력 데이터 값
//Text            / FloatWritable    / Text                / Text
public class HomeworkReducer extends Reducer<Text, FloatWritable, Text, Text> {

  private Text result = new Text();

  public void reduce(Text key, Iterable<FloatWritable> values, Context context) throws IOException, InterruptedException {
    result.set("--- Hadoop2 Homework");
    context.write(key, result);
  }
}
/// ********************************************************************************************** ///
```

```
/// ********************************************************************************************** ///
// 공통 클래스를 구현했습니다.
// HomeworkDTH.java
import org.apache.hadoop.io.Text;
public class HomeworkDTH {
  private String date;
  private float temp;
  private float humid;

  public HomeworkDTH(Text text) {
    try {
      String[] colums = text.toString().split(",");

      // date, temp, humid 칼럼의 데이터를 저장합니다.
      // date에는 2번째 칼럼의 데이터(날짜)가
      // temp에는 3번째 칼럼의 데이터(온도)가
      // humid에는 9번째 칼럼의 데이터(습도)가 각각 저장됩니다.
      date = colums[1];
      temp = (float) Double.parseDouble(colums[2]);
      humid = (float) Double.parseDouble(colums[8]);
    } catch (Exception e) {
      System.out.println("Error record :" + e.getMessage());
    }
  }

  public String getDate() { return date; }
  public float getTemp() { return temp; }
  public float getHumid() { return humid; }
}
/// ********************************************************************************************** ///
```

>>> 2019.csv 파일은 아래 11개의 칼럼을 가집니다.
>>> spot / date / temp / addrain / wind / windspeed / curpress / seapress / humid / solaraiation / sunlight

>>> 저는 최근에 iot수업에서 온습도 센서를 사용해서 과제를 했던 기억이 있어서 이번에도 온도와 습도 그리고 추가로 날짜를 선택했습니다.
>>> 즉, 11개의 칼럼 중에서 date, temp, humid 3개의 칼럼을 뽑아서
>>> 온도를 낮은 순서대로 출력합니다.
>>> 같은 온도일 때는 습도를 비교해서 낮은 습도부터 출력합니다.
>>> 출력 결과를 보면 아시겠지만 0은 측정되지 않은 데이터들입니다.
>>> 측정되지 않은 데이터들을 골라낼 수 있고, 최고, 최저 기온에 대해서 알 수 있습니다.

```
chosun@chosun-VirtualBox:~/hadoop2$
/// ********************************************************************************************** ///
>>> sed -e 명령어를 사용해서
>>> 작업할 데이터 SURFACE_ASOS_90_MI_2019-05_2019-05_2019_new.csv의 첫 번째 칼럼을 삭제했습니다.
>>> 파일명이 길어서 편의상 파일 이름을 2019.csv로 수정했습니다.
/// ********************************************************************************************** ///
chosun@chosun-VirtualBox:~/hadoop2$ ls
HW13.jar LICENSE.txt NOTICE.txt README.txt SURFACE_ASOS_90_MI_2019-05_2019-05_2019_new.csv bin etc hs_err_pid13857.log
hs_err_pid2965.log include lib libexec logs pids sbin share
chosun@chosun-VirtualBox:~/hadoop2$
chosun@chosun-VirtualBox:~/hadoop2$ sed -e '1d' SURFACE_ASOS_90_MI_2019-05_2019-05_2019_new.csv > 2019.csv
chosun@chosun-VirtualBox:~/hadoop2$
chosun@chosun-VirtualBox:~/hadoop2$ ls
2019.csv HW13.jar LICENSE.txt NOTICE.txt README.txt SURFACE_ASOS_90_MI_2019-05_2019-05_2019_new.csv bin
etc hs_err_pid13857.log hs_err_pid2965.log include lib libexec logs pids sbin share
chosun@chosun-VirtualBox:~/hadoop2$
/// ********************************************************************************************** ///
>>> hdfs에 data 디렉터리를 만들고, 2019.csv데이터를 업로드 했습니다.
/// ********************************************************************************************** ///
chosun@chosun-VirtualBox:~/hadoop2$ hdfs dfs -ls
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.KerberosUtil (file:/home/chosun/hadoop-2.7.2/share/
hadoop/common/lib/hadoop-auth-2.7.2.jar) to method sun.security.krb5.Config.getInstance()
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.security.authentication.util.KerberosUtil
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations
WARNING: All illegal access operations will be denied in a future release
chosun@chosun-VirtualBox:~/hadoop2$
chosun@chosun-VirtualBox:~/hadoop2$ hdfs dfs -mkdir data
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.KerberosUtil (file:/home/chosun/hadoop-2.7.2/share
/hadoop/common/lib/hadoop-auth-2.7.2.jar) to method sun.security.krb5.Config.getInstance()
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.security.authentication.util.KerberosUtil
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations
WARNING: All illegal access operations will be denied in a future release
chosun@chosun-VirtualBox:~/hadoop2$
chosun@chosun-VirtualBox:~/hadoop2$ hdfs dfs -put 2019.csv data
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.KerberosUtil (file:/home/chosun/hadoop-2.7.2/share/
hadoop/common/lib/hadoop-auth-2.7.2.jar) to method sun.security.krb5.Config.getInstance()
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.security.authentication.util.KerberosUtil
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations
WARNING: All illegal access operations will be denied in a future release
chosun@chosun-VirtualBox:~/hadoop2$
/// ********************************************************************************************** ///
>>> yarn 명령어를 사용해서 jar파일을 실행했습니다.
>>> 클래스 이름은 HWEx13이고 작업이 완료되면 Homework 디렉터리에 출력 데이터가 저장됩니다.
/// ********************************************************************************************** ///
chosun@chosun-VirtualBox:~/hadoop2$ yarn jar HW13.jar HWEx13 data Homework
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.KerberosUtil (file:/home/chosun/hadoop-2.7.2/share/
hadoop/common/lib/hadoop-auth-2.7.2.jar) to method sun.security.krb5.Config.getInstance()
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.security.authentication.util.KerberosUtil
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations
WARNING: All illegal access operations will be denied in a future release
19/05/28 20:12:48 INFO client.RMProxy: Connecting to ResourceManager at localhost/127.0.0.1:8032
19/05/28 20:12:48 WARN mapreduce.JobResourceUploader: Hadoop command-line option parsing not performed. Implement the Tool
interface and execute your application with ToolRunner to remedy this.
19/05/28 20:12:48 INFO input.FileInputFormat: Total input paths to process : 1
19/05/28 20:12:48 INFO mapreduce.JobSubmitter: number of splits:1
19/05/28 20:12:48 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_1559030378616_0028
19/05/28 20:12:49 INFO impl.YarnClientImpl: Submitted application application_1559030378616_0028
```

```
19/05/28 20:12:49 INFO mapreduce.Job: The url to track the job: http://0.0.0.0:8089/proxy/application_1559030378616_0028/
19/05/28 20:12:49 INFO mapreduce.Job: Running job: job_1559030378616_0028                                  // job 시작
19/05/28 20:12:53 INFO mapreduce.Job: Job job_1559030378616_0028 running in uber mode : false
19/05/28 20:12:53 INFO mapreduce.Job:  map 0% reduce 0%                                                    // 맵리듀스 시작
19/05/28 20:12:58 INFO mapreduce.Job:  map 100% reduce 0%                                                  // ~~ ing
19/05/28 20:13:03 INFO mapreduce.Job:  map 100% reduce 100%                                                // 맵리듀스 끝
19/05/28 20:13:03 INFO mapreduce.Job: Job job_1559030378616_0028 completed successfully                    // job 끝
19/05/28 20:13:03 INFO mapreduce.Job: Counters: 49
        File System Counters
                FILE: Number of bytes read=2043575                                                         // 읽은 바이트 수
                FILE: Number of bytes written=4322219                                                      // 쓰기 바이트 수
                FILE: Number of read operations=0                                                          // 읽기 작업 수
                FILE: Number of large read operations=0                                                    // 큰 읽기 작업 수
                FILE: Number of write operations=0                                                         // 쓰기 작업 수
                HDFS: Number of bytes read=2191411                                                         // 읽은 바이트 수
                HDFS: Number of bytes written=2585474                                                      // 쓰기 바이트 수
                HDFS: Number of read operations=6                                                          // 읽기 작업 수
                HDFS: Number of large read operations=0                                                    // 큰 읽기 작업 수
                HDFS: Number of write operations=2                                                         // 쓰기 작업 수
        Job Counters
                Launched map tasks=1                                                                   // 실행된 총 맵 작업 수
                Launched reduce tasks=1                                                               // 실행된 총 리듀스 작업 수
                Data-local map tasks=1                                                          // 필요한 데이터가 포함된 노드에서 시작된 맵 테스크 수
                Total time spent by all maps in occupied slots (ms)=2179                              // 맵 대기시간 단축시킨 시간
                Total time spent by all reduces in occupied slots (ms)=2795                           // 리듀스 대기시간 단축시킨 시간
                Total time spent by all map tasks (ms)=2179                                           // 모든 맵 태스크에 소요된 총 시간
                Total time spent by all reduce tasks (ms)=2795                                        // 모든 리듀스 태스크에 소요된 총 시간
                Total vcore-milliseconds taken by all map tasks=2179                                  // 모든 맵 작업에 소요되는 총 밀리초
                Total vcore-milliseconds taken by all reduce tasks=2795                               // 모든 리듀스 작업에 소요되는 총 밀리초
                Total megabyte-milliseconds taken by all map tasks=2231296                            // 모든 맵 작업에 소요되는 총 밀리초(mb)
                Total megabyte-milliseconds taken by all reduce tasks=2862080                         // 모든 리듀스 작업에 소요되는 총 밀리초(mb)
        Map-Reduce Framework
                Map input records=36127                                                                // 맵에 입력되는 데이터의 수
                Map output records=36127                                                               // 맵의 출력으로 생성된 데이터의 수
                Map output bytes=1971315                                                         // 모든 맵에 의해 생성된 압축되지 않은 출력 바이트수
                Map output materialized bytes=2043575                                                  // 실제로 디스크에 기록된 맵 출력 바이트 수
                Input split bytes=112                                                                  // 작업 중에 디스크에 기록 된 총 레코드 수
                Combine input records=0                                                                // 입력 레코드 수
                Combine output records=0                                                               // 출력 레코드 수
                Reduce input groups=36127                                                              // 리듀스 단계에서 처리한 개별 키 그룹의 수
                Reduce shuffle bytes=2043575                                                           // 리듀스 단계에 셔플된 맵 출력의 바이트 수
                Reduce input records=36127                                                             // 리듀스에 입력된 데이터의 수
                Reduce output records=36127                                                            // 리듀스의 출력으로 생성된 데이터의 수
                Spilled Records=72254                                                                  // 작업 중에 디스크에 기록 된 총 레코드 수
                Shuffled Maps =1                                                                       // 셔플된 맵 수
                Failed Shuffles=0                                                                      // 실패한 셔플 수
                Merged Map outputs=1                                                                   // 병합된 맵 출력 수
                GC time elapsed (ms)=61                                                                // GC 시간 경과
                CPU time spent (ms)=2450                                                               // 소요된 cpu시간
                Physical memory (bytes) snapshot=397459456                                       // 모든 작업에 사용되는 총 물리적 메모리
                Virtual memory (bytes) snapshot=4251074560                                             // 모든 작업에 사용된 총 가상 메모리
                Total committed heap usage (bytes)=240123904                                           // JVM에 사용할 수 있는 총 메모리 양
        Shuffle Errors
                BAD_ID=0
                CONNECTION=0
                IO_ERROR=0
                WRONG_LENGTH=0
                WRONG_MAP=0
                WRONG_REDUCE=0
        File Input Format Counters
                Bytes Read=2191299                                                       // 모든 파일 시스템에 대해 모든 테스크에서 읽은 데이터 양
```

File Output Format Counters

Bytes Written=2585474 // 모든 파일 시스템에 대해 모든 태스크에서 작성된 데이터 양

chosun@chosun-VirtualBox:~/hadoop2$

/// ********** ///

>>> cat 명령어를 사용해서 Homework에 저장된 출력 데이터 part-r-00000을 읽었습니다.

/// ********** ///

chosun@chosun-VirtualBox:~/hadoop2$ hdfs dfs -cat Homework/part-r-00000 | head -100

WARNING: An illegal reflective access operation has occurred

WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.KerberosUtil (file:/home/chosun/hadoop-2.7.2/share/hadoop/common/lib/hadoop-auth-2.7.2.jar) to method sun.security.krb5.Config.getInstance()

WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.security.authentication.util.KerberosUtil

WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations

WARNING: All illegal access operations will be denied in a future release

Temp : 0.0, Humid : 0.0, Date : 2019-05-06 18:06 --- Hadoop2 Homework

Temp : 0.0, Humid : 0.0, Date : 2019-05-06 18:07 --- Hadoop2 Homework

Temp : 0.0, Humid : 0.0, Date : 2019-05-20 9:28--- Hadoop2 Homework

Temp : 0.0, Humid : 0.0, Date : 2019-05-21 13:13 --- Hadoop2 Homework

Temp : 0.0, Humid : 0.0, Date : 2019-05-21 13:14 --- Hadoop2 Homework

Temp : 0.0, Humid : 0.0, Date : 2019-05-21 13:15 --- Hadoop2 Homework

Temp : 0.0, Humid : 0.0, Date : 2019-05-21 13:16 --- Hadoop2 Homework

Temp : 0.0, Humid : 0.0, Date : 2019-05-21 13:17 --- Hadoop2 Homework

Temp : 0.0, Humid : 0.0, Date : 2019-05-21 13:18 --- Hadoop2 Homework

Temp : 0.0, Humid : 0.0, Date : 2019-05-21 13:19 --- Hadoop2 Homework

Temp : 0.0, Humid : 0.0, Date : 2019-05-21 13:20 --- Hadoop2 Homework

Temp : 0.0, Humid : 0.0, Date : 2019-05-21 13:21 --- Hadoop2 Homework

Temp : 0.0, Humid : 0.0, Date : 2019-05-21 13:22 --- Hadoop2 Homework

Temp : 10.0, Humid : 48.1, Date : 2019-05-06 20:21 --- Hadoop2 Homework

Temp : 10.0, Humid : 48.6, Date : 2019-05-06 20:22 --- Hadoop2 Homework

Temp : 10.0, Humid : 70.0, Date : 2019-05-06 5:21--- Hadoop2 Homework

Temp : 10.0, Humid : 70.6, Date : 2019-05-06 4:56--- Hadoop2 Homework

Temp : 10.0, Humid : 70.9, Date : 2019-05-06 4:55--- Hadoop2 Homework

Temp : 10.0, Humid : 71.3, Date : 2019-05-06 5:18--- Hadoop2 Homework

Temp : 10.0, Humid : 71.7, Date : 2019-05-06 4:54--- Hadoop2 Homework

Temp : 10.0, Humid : 71.8, Date : 2019-05-06 5:19--- Hadoop2 Homework

Temp : 10.0, Humid : 74.7, Date : 2019-05-06 4:40--- Hadoop2 Homework

Temp : 10.0, Humid : 74.9, Date : 2019-05-06 4:39--- Hadoop2 Homework

Temp : 10.0, Humid : 75.1, Date : 2019-05-06 4:38--- Hadoop2 Homework

Temp : 10.0, Humid : 75.1, Date : 2019-05-06 4:41--- Hadoop2 Homework

Temp : 10.0, Humid : 75.2, Date : 2019-05-06 4:32--- Hadoop2 Homework

Temp : 10.0, Humid : 75.4, Date : 2019-05-06 4:42--- Hadoop2 Homework

Temp : 10.0, Humid : 75.6, Date : 2019-05-06 4:43--- Hadoop2 Homework

Temp : 10.0, Humid : 75.7, Date : 2019-05-06 4:44--- Hadoop2 Homework

Temp : 10.0, Humid : 82.6, Date : 2019-05-06 4:20--- Hadoop2 Homework

Temp : 10.0, Humid : 82.7, Date : 2019-05-06 4:19--- Hadoop2 Homework

Temp : 10.0, Humid : 83.3, Date : 2019-05-06 4:18--- Hadoop2 Homework

Temp : 10.1, Humid : 37.5, Date : 2019-05-07 2:15--- Hadoop2 Homework

Temp : 10.1, Humid : 48.1, Date : 2019-05-06 20:20 --- Hadoop2 Homework

Temp : 10.1, Humid : 48.5, Date : 2019-05-06 20:19 --- Hadoop2 Homework

Temp : 10.1, Humid : 68.3, Date : 2019-05-06 5:25--- Hadoop2 Homework

Temp : 10.1, Humid : 68.6, Date : 2019-05-06 4:59--- Hadoop2 Homework

Temp : 10.1, Humid : 69.0, Date : 2019-05-06 5:22--- Hadoop2 Homework

Temp : 10.1, Humid : 69.6, Date : 2019-05-06 4:58--- Hadoop2 Homework

Temp : 10.1, Humid : 70.1, Date : 2019-05-06 4:57--- Hadoop2 Homework

Temp : 10.1, Humid : 70.3, Date : 2019-05-06 5:24--- Hadoop2 Homework

Temp : 10.1, Humid : 70.6, Date : 2019-05-06 5:13--- Hadoop2 Homework

Temp : 10.1, Humid : 70.8, Date : 2019-05-06 5:15--- Hadoop2 Homework

Temp : 10.1, Humid : 70.8, Date : 2019-05-06 5:16--- Hadoop2 Homework

Temp : 10.1, Humid : 70.9, Date : 2019-05-06 5:14--- Hadoop2 Homework

Temp : 10.1, Humid : 71.3, Date : 2019-05-06 5:17--- Hadoop2 Homework

Temp : 10.1, Humid : 71.5, Date : 2019-05-06 5:20--- Hadoop2 Homework

Temp : 10.1, Humid : 83.6, Date : 2019-05-06 4:16--- Hadoop2 Homework

Temp : 10.1, Humid : 83.6, Date : 2019-05-06 4:17--- Hadoop2 Homework
Temp : 10.1, Humid : 84.0, Date : 2019-05-06 4:15--- Hadoop2 Homework
Temp : 10.1, Humid : 90.4, Date : 2019-05-01 3:22--- Hadoop2 Homework
Temp : 10.1, Humid : 90.8, Date : 2019-05-01 3:23--- Hadoop2 Homework
Temp : 10.2, Humid : 48.1, Date : 2019-05-06 20:18 --- Hadoop2 Homework
Temp : 10.2, Humid : 69.2, Date : 2019-05-06 5:00--- Hadoop2 Homework
Temp : 10.2, Humid : 69.7, Date : 2019-05-06 5:23--- Hadoop2 Homework
Temp : 10.2, Humid : 70.2, Date : 2019-05-06 5:12--- Hadoop2 Homework
Temp : 10.2, Humid : 84.4, Date : 2019-05-06 4:14--- Hadoop2 Homework
Temp : 10.2, Humid : 84.7, Date : 2019-05-06 4:10--- Hadoop2 Homework
Temp : 10.2, Humid : 84.8, Date : 2019-05-06 4:13--- Hadoop2 Homework
Temp : 10.2, Humid : 84.9, Date : 2019-05-06 4:11--- Hadoop2 Homework
Temp : 10.2, Humid : 84.9, Date : 2019-05-06 4:12--- Hadoop2 Homework
Temp : 10.2, Humid : 90.0, Date : 2019-05-01 3:21--- Hadoop2 Homework
Temp : 10.2, Humid : 91.2, Date : 2019-05-01 3:43--- Hadoop2 Homework
Temp : 10.2, Humid : 91.3, Date : 2019-05-01 3:24--- Hadoop2 Homework
Temp : 10.2, Humid : 91.6, Date : 2019-05-01 3:25--- Hadoop2 Homework
Temp : 10.3, Humid : 36.5, Date : 2019-05-07 2:16--- Hadoop2 Homework
Temp : 10.3, Humid : 47.7, Date : 2019-05-06 20:15 --- Hadoop2 Homework
Temp : 10.3, Humid : 47.7, Date : 2019-05-06 20:16 --- Hadoop2 Homework
Temp : 10.3, Humid : 48.0, Date : 2019-05-06 20:17 --- Hadoop2 Homework
Temp : 10.3, Humid : 65.6, Date : 2019-05-06 5:27--- Hadoop2 Homework
Temp : 10.3, Humid : 66.5, Date : 2019-05-06 5:26--- Hadoop2 Homework
Temp : 10.3, Humid : 67.9, Date : 2019-05-06 5:03--- Hadoop2 Homework
Temp : 10.3, Humid : 68.1, Date : 2019-05-06 5:07--- Hadoop2 Homework
Temp : 10.3, Humid : 68.5, Date : 2019-05-06 5:06--- Hadoop2 Homework
Temp : 10.3, Humid : 68.7, Date : 2019-05-06 5:05--- Hadoop2 Homework
Temp : 10.3, Humid : 68.7, Date : 2019-05-06 5:09--- Hadoop2 Homework
Temp : 10.3, Humid : 68.8, Date : 2019-05-06 5:02--- Hadoop2 Homework
Temp : 10.3, Humid : 68.9, Date : 2019-05-06 5:04--- Hadoop2 Homework
Temp : 10.3, Humid : 69.2, Date : 2019-05-06 5:01--- Hadoop2 Homework
Temp : 10.3, Humid : 69.2, Date : 2019-05-06 5:10--- Hadoop2 Homework
Temp : 10.3, Humid : 69.5, Date : 2019-05-06 5:11--- Hadoop2 Homework
Temp : 10.3, Humid : 84.5, Date : 2019-05-06 4:07--- Hadoop2 Homework
Temp : 10.3, Humid : 84.6, Date : 2019-05-06 4:09--- Hadoop2 Homework
Temp : 10.3, Humid : 84.7, Date : 2019-05-06 4:08--- Hadoop2 Homework
Temp : 10.3, Humid : 89.6, Date : 2019-05-01 3:20--- Hadoop2 Homework
Temp : 10.3, Humid : 91.2, Date : 2019-05-01 3:42--- Hadoop2 Homework
Temp : 10.3, Humid : 91.8, Date : 2019-05-01 3:44--- Hadoop2 Homework
Temp : 10.3, Humid : 92.5, Date : 2019-05-01 0:02--- Hadoop2 Homework
Temp : 10.3, Humid : 92.5, Date : 2019-05-01 0:03--- Hadoop2 Homework
Temp : 10.3, Humid : 92.5, Date : 2019-05-01 0:04--- Hadoop2 Homework
Temp : 10.3, Humid : 92.5, Date : 2019-05-01 0:05--- Hadoop2 Homework
Temp : 10.3, Humid : 92.6, Date : 2019-05-01 0:06--- Hadoop2 Homework
Temp : 10.3, Humid : 92.6, Date : 2019-05-01 0:07--- Hadoop2 Homework
Temp : 10.3, Humid : 92.6, Date : 2019-05-01 0:10--- Hadoop2 Homework
Temp : 10.3, Humid : 92.6, Date : 2019-05-01 0:11--- Hadoop2 Homework
Temp : 10.3, Humid : 92.6, Date : 2019-05-01 0:12--- Hadoop2 Homework
Temp : 10.3, Humid : 92.6, Date : 2019-05-01 0:13--- Hadoop2 Homework
Temp : 10.3, Humid : 92.7, Date : 2019-05-01 0:08--- Hadoop2 Homework
Temp : 10.3, Humid : 92.7, Date : 2019-05-01 0:09--- Hadoop2 Homework
Temp : 10.3, Humid : 93.5, Date : 2019-05-01 5:42--- Hadoop2 Homework
cat: Unable to write to output stream.
chosun@chosun-VirtualBox:~/hadoop2$
chosun@chosun-VirtualBox:~/hadoop2$ hdfs dfs -cat Homework/part-r-00000 | tail -100
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.KerberosUtil (file:/home/chosun/hadoop-2.7.2/share/hadoop/common/lib/hadoop-auth-2.7.2.jar) to method sun.security.krb5.Config.getInstance()
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.security.authentication.util.KerberosUtil
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations
WARNING: All illegal access operations will be denied in a future release

Temp : 9.2, Humid : 51.0, Date : 2019-05-06 20:51 --- Hadoop2 Homework
Temp : 9.2, Humid : 51.1, Date : 2019-05-06 20:48 --- Hadoop2 Homework
Temp : 9.2, Humid : 51.1, Date : 2019-05-06 20:49 --- Hadoop2 Homework
Temp : 9.2, Humid : 51.2, Date : 2019-05-06 20:47 --- Hadoop2 Homework
Temp : 9.2, Humid : 51.4, Date : 2019-05-06 20:42 --- Hadoop2 Homework
Temp : 9.2, Humid : 51.4, Date : 2019-05-06 21:01 --- Hadoop2 Homework
Temp : 9.2, Humid : 51.5, Date : 2019-05-06 20:44 --- Hadoop2 Homework
Temp : 9.2, Humid : 51.6, Date : 2019-05-06 20:46 --- Hadoop2 Homework
Temp : 9.2, Humid : 51.9, Date : 2019-05-06 20:41 --- Hadoop2 Homework
Temp : 9.2, Humid : 52.1, Date : 2019-05-06 20:40 --- Hadoop2 Homework
Temp : 9.3, Humid : 37.3, Date : 2019-05-07 1:17--- Hadoop2 Homework
Temp : 9.3, Humid : 38.2, Date : 2019-05-07 1:23--- Hadoop2 Homework
Temp : 9.3, Humid : 38.4, Date : 2019-05-07 1:20--- Hadoop2 Homework
Temp : 9.3, Humid : 40.0, Date : 2019-05-07 0:13--- Hadoop2 Homework
Temp : 9.3, Humid : 40.2, Date : 2019-05-07 0:19--- Hadoop2 Homework
Temp : 9.3, Humid : 40.5, Date : 2019-05-07 0:14--- Hadoop2 Homework
Temp : 9.3, Humid : 40.5, Date : 2019-05-07 0:18--- Hadoop2 Homework
Temp : 9.3, Humid : 40.7, Date : 2019-05-07 0:20--- Hadoop2 Homework
Temp : 9.3, Humid : 42.2, Date : 2019-05-07 2:06--- Hadoop2 Homework
Temp : 9.3, Humid : 42.6, Date : 2019-05-06 21:56 --- Hadoop2 Homework
Temp : 9.3, Humid : 46.5, Date : 2019-05-07 1:58--- Hadoop2 Homework
Temp : 9.3, Humid : 50.2, Date : 2019-05-06 20:52 --- Hadoop2 Homework
Temp : 9.3, Humid : 50.8, Date : 2019-05-06 20:53 --- Hadoop2 Homework
Temp : 9.3, Humid : 50.8, Date : 2019-05-06 20:54 --- Hadoop2 Homework
Temp : 9.3, Humid : 51.2, Date : 2019-05-06 20:55 --- Hadoop2 Homework
Temp : 9.3, Humid : 51.3, Date : 2019-05-06 20:59 --- Hadoop2 Homework
Temp : 9.3, Humid : 51.3, Date : 2019-05-06 21:00 --- Hadoop2 Homework
Temp : 9.3, Humid : 51.4, Date : 2019-05-06 20:58 --- Hadoop2 Homework
Temp : 9.3, Humid : 51.7, Date : 2019-05-06 20:57 --- Hadoop2 Homework
Temp : 9.3, Humid : 51.9, Date : 2019-05-06 20:56 --- Hadoop2 Homework
Temp : 9.3, Humid : 52.2, Date : 2019-05-06 20:39 --- Hadoop2 Homework
Temp : 9.3, Humid : 52.3, Date : 2019-05-06 20:38 --- Hadoop2 Homework
Temp : 9.4, Humid : 42.7, Date : 2019-05-07 1:39--- Hadoop2 Homework
Temp : 9.4, Humid : 43.6, Date : 2019-05-06 21:57 --- Hadoop2 Homework
Temp : 9.4, Humid : 45.0, Date : 2019-05-06 21:58 --- Hadoop2 Homework
Temp : 9.4, Humid : 51.6, Date : 2019-05-06 20:36 --- Hadoop2 Homework
Temp : 9.4, Humid : 52.0, Date : 2019-05-06 20:37 --- Hadoop2 Homework
Temp : 9.5, Humid : 37.5, Date : 2019-05-07 1:24--- Hadoop2 Homework
Temp : 9.5, Humid : 38.2, Date : 2019-05-07 1:26--- Hadoop2 Homework
Temp : 9.5, Humid : 38.2, Date : 2019-05-07 1:27--- Hadoop2 Homework
Temp : 9.5, Humid : 38.5, Date : 2019-05-07 1:19--- Hadoop2 Homework
Temp : 9.5, Humid : 38.6, Date : 2019-05-07 1:25--- Hadoop2 Homework
Temp : 9.5, Humid : 39.4, Date : 2019-05-07 1:33--- Hadoop2 Homework
Temp : 9.5, Humid : 39.7, Date : 2019-05-07 1:32--- Hadoop2 Homework
Temp : 9.5, Humid : 39.7, Date : 2019-05-07 1:36--- Hadoop2 Homework
Temp : 9.5, Humid : 40.7, Date : 2019-05-07 1:37--- Hadoop2 Homework
Temp : 9.5, Humid : 41.0, Date : 2019-05-07 1:38--- Hadoop2 Homework
Temp : 9.5, Humid : 50.2, Date : 2019-05-06 20:30 --- Hadoop2 Homework
Temp : 9.5, Humid : 50.7, Date : 2019-05-06 20:31 --- Hadoop2 Homework
Temp : 9.5, Humid : 51.1, Date : 2019-05-06 20:32 --- Hadoop2 Homework
Temp : 9.5, Humid : 51.3, Date : 2019-05-06 20:33 --- Hadoop2 Homework
Temp : 9.5, Humid : 51.3, Date : 2019-05-06 20:34 --- Hadoop2 Homework
Temp : 9.5, Humid : 51.4, Date : 2019-05-06 20:35 --- Hadoop2 Homework
Temp : 9.6, Humid : 36.8, Date : 2019-05-07 1:18--- Hadoop2 Homework
Temp : 9.6, Humid : 37.4, Date : 2019-05-07 1:28--- Hadoop2 Homework
Temp : 9.6, Humid : 38.7, Date : 2019-05-07 1:34--- Hadoop2 Homework
Temp : 9.6, Humid : 38.8, Date : 2019-05-07 1:31--- Hadoop2 Homework
Temp : 9.6, Humid : 39.1, Date : 2019-05-07 1:35--- Hadoop2 Homework
Temp : 9.6, Humid : 49.9, Date : 2019-05-06 20:29 --- Hadoop2 Homework
Temp : 9.7, Humid : 37.5, Date : 2019-05-07 1:29--- Hadoop2 Homework
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Temp : 9.7, Humid : 39.5, Date : 2019-05-07 2:07--- Hadoop2 Homework
Temp : 9.7, Humid : 49.3, Date : 2019-05-06 20:27 --- Hadoop2 Homework
Temp : 9.7, Humid : 49.6, Date : 2019-05-06 20:28 --- Hadoop2 Homework
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Temp : 9.8, Humid : 49.3, Date : 2019-05-06 20:25 --- Hadoop2 Homework
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Temp : 9.8, Humid : 81.4, Date : 2019-05-06 4:25--- Hadoop2 Homework
Temp : 9.8, Humid : 81.4, Date : 2019-05-06 4:26--- Hadoop2 Homework
Temp : 9.8, Humid : 82.0, Date : 2019-05-06 4:22--- Hadoop2 Homework
Temp : 9.9, Humid : 39.9, Date : 2019-05-07 2:14--- Hadoop2 Homework
Temp : 9.9, Humid : 40.3, Date : 2019-05-07 2:11--- Hadoop2 Homework
Temp : 9.9, Humid : 41.5, Date : 2019-05-07 2:12--- Hadoop2 Homework
Temp : 9.9, Humid : 42.3, Date : 2019-05-07 2:13--- Hadoop2 Homework
Temp : 9.9, Humid : 48.9, Date : 2019-05-06 20:23 --- Hadoop2 Homework
Temp : 9.9, Humid : 49.1, Date : 2019-05-06 20:24 --- Hadoop2 Homework
Temp : 9.9, Humid : 72.8, Date : 2019-05-06 4:53--- Hadoop2 Homework
Temp : 9.9, Humid : 73.7, Date : 2019-05-06 4:52--- Hadoop2 Homework
Temp : 9.9, Humid : 74.5, Date : 2019-05-06 4:50--- Hadoop2 Homework
Temp : 9.9, Humid : 74.6, Date : 2019-05-06 4:34--- Hadoop2 Homework
Temp : 9.9, Humid : 74.6, Date : 2019-05-06 4:49--- Hadoop2 Homework
Temp : 9.9, Humid : 74.7, Date : 2019-05-06 4:33--- Hadoop2 Homework
Temp : 9.9, Humid : 74.8, Date : 2019-05-06 4:47--- Hadoop2 Homework
Temp : 9.9, Humid : 74.9, Date : 2019-05-06 4:48--- Hadoop2 Homework
Temp : 9.9, Humid : 74.9, Date : 2019-05-06 4:51--- Hadoop2 Homework
Temp : 9.9, Humid : 75.0, Date : 2019-05-06 4:46--- Hadoop2 Homework
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Temp : 9.9, Humid : 75.2, Date : 2019-05-06 4:36--- Hadoop2 Homework
Temp : 9.9, Humid : 75.4, Date : 2019-05-06 4:45--- Hadoop2 Homework
Temp : 9.9, Humid : 76.1, Date : 2019-05-06 4:31--- Hadoop2 Homework
Temp : 9.9, Humid : 77.4, Date : 2019-05-06 4:30--- Hadoop2 Homework
Temp : 9.9, Humid : 82.7, Date : 2019-05-06 4:21--- Hadoop2 Homework
chosun@chosun-VirtualBox:~/hadoop2$
chosun@chosun-VirtualBox:~/hadoop2$