```
cnlab@cse-lab3-u-20:~$ export JAVA_HOME=/usr/lib/jvm/default-java
cnlab@cse-lab3-u-20:~$ export PATH=$JAVA_HOME/bin:$PATH
cnlab@cse-lab3-u-20:~$ which java
/usr/lib/jvm/default-java/bin/java
cnlab@cse-lab3-u-20:~$ export HADOOP_HOME=/home/cnlab/hadoop-3.4.0
cnlab@cse-lab3-u-20:~$ export PATH=$HADOOP_HOME/bin:$PATH
cnlab@cse-lab3-u-20:~$ hadoop --version
/home/cnlab/hadoop-3.4.0/libexec/hadoop-functions.sh: line 2394: HADOOP_--VERSION_USER: invalid variable name
ERROR: --version is not COMMAND nor fully qualified CLASSNAME.
Usage: hadoop [OPTIONS] SUBCOMMAND [SUBCOMMAND OPTIONS]
 or    hadoop [OPTIONS] CLASSNAME [CLASSNAME OPTIONS]
  where CLASSNAME is a user-provided Java class

  OPTIONS is none or any of:

buildpaths                      attempt to add class files from build tree
--config dir                    Hadoop config directory
--debug                         turn on shell script debug mode
--help                          usage information
hostnames list[,of,host,names]  hosts to use in worker mode
hosts filename                  list of hosts to use in worker mode
loglevel level                  set the log4j level for this command
workers                         turn on worker mode

   SUBCOMMAND is one of:


    Admin Commands:

 daemonlog      get/set the log level for each daemon
```

```
cnlab@cse-lab3-u-20:~$ mkdir weather_class
cnlab@cse-lab3-u-20:~$ cd weather_class
cnlab@cse-lab3-u-20:~/weather_class$ hadoop com.sun.tools.javac.Main MaxTemperature.java MaxTemperatureMapper.java MaxTemperatur
eReducer.java
Note: MaxTemperature.java uses or overrides a deprecated API.
Note: Recompile with -Xlint:deprecation for details.
cnlab@cse-lab3-u-20:~/weather_class$ hadoop com.sun.tools.javac.Main-Xlint MaxTemperature.java MaxTemperatureMapper.java MaxTemp
eratureReducer.java
Error: Could not find or load main class com.sun.tools.javac.Main-Xlint
Caused by: java.lang.ClassNotFoundException: com.sun.tools.javac.Main-Xlint
cnlab@cse-lab3-u-20:~/weather_class$ hadoop com.sun.tools.javac.Main -Xlint MaxTemperature.java MaxTemperatureMapper.java MaxTem
peratureReducer.java
warning: [path] bad path element "/home/cnlab/hadoop-3.4.0/share/hadoop/common/lib/jaxb-api.jar": no such file or directory
warning: [path] bad path element "/home/cnlab/hadoop-3.4.0/share/hadoop/common/lib/activation.jar": no such file or directory
warning: [path] bad path element "/home/cnlab/hadoop-3.4.0/share/hadoop/common/lib/jsr173_1.0_api.jar": no such file or director
y
warning: [path] bad path element "/home/cnlab/hadoop-3.4.0/share/hadoop/common/lib/jaxb1-impl.jar": no such file or directory
warning: [path] bad path element "/home/cnlab/hadoop-3.4.0/share/hadoop/hdfs/lib/jaxb-api.jar": no such file or directory
warning: [path] bad path element "/home/cnlab/hadoop-3.4.0/share/hadoop/hdfs/lib/activation.jar": no such file or directory
warning: [path] bad path element "/home/cnlab/hadoop-3.4.0/share/hadoop/hdfs/lib/jsr173_1.0_api.jar": no such file or directory
warning: [path] bad path element "/home/cnlab/hadoop-3.4.0/share/hadoop/hdfs/lib/jaxb1-impl.jar": no such file or directory
MaxTemperature.java:16: warning: [deprecation] Job() in Job has been deprecated
    Job job = new Job();
              ^
9 warnings
cnlab@cse-lab3-u-20:~/weather_class$ jar cf wc.jar MaxTemperature*.class
cnlab@cse-lab3-u-20:~/weather_class$ hadoop jar wc.jar MaxTemperature Input/1901 output1
2024-09-03 16:08:56,039 INFO impl.MetricsConfig: Loaded properties from hadoop-metrics2.properties
2024-09-03 16:08:56,363 INFO impl.MetricsSystemImpl: Scheduled Metric snapshot period at 10 second(s).
2024-09-03 16:08:56,363 INFO impl.MetricsSystemImpl: JobTracker metrics system started
2024-09-03 16:08:56,766 WARN mapreduce.JobResourceUploader: Hadoop command-line option parsing not performed. Implement the Tool
```

cnlab@cse-lab3-u-20: ~/weather_class

cnlab@cse-lab3-u-20: ~   cnlab@cse-lab3-u-20: ~   cnlab@cse-lab3-u-20: ~/weather_class   cnlab@cse-lab3-u-20: ~/WordCount

```
9 warnings
cnlab@cse-lab3-u-20:~/weather_class$ jar cf wc.jar MaxTemperature*.class
cnlab@cse-lab3-u-20:~/weather_class$ hadoop jar wc.jar MaxTemperature Input/1901 output1
2024-09-03 16:08:56,039 INFO impl.MetricsConfig: Loaded properties from hadoop-metrics2.properties
2024-09-03 16:08:56,363 INFO impl.MetricsSystemImpl: Scheduled Metric snapshot period at 10 second(s).
2024-09-03 16:08:56,363 INFO impl.MetricsSystemImpl: JobTracker metrics system started
2024-09-03 16:08:56,766 WARN mapreduce.JobResourceUploader: Hadoop command-line option parsing not performed. Implement the Tool
 interface and execute your application with ToolRunner to remedy this.
2024-09-03 16:08:56,919 INFO input.FileInputFormat: Total input files to process : 1
2024-09-03 16:08:56,972 INFO mapreduce.JobSubmitter: number of splits:1
2024-09-03 16:08:57,378 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_local1626368672_0001
2024-09-03 16:08:57,378 INFO mapreduce.JobSubmitter: Executing with tokens: []
2024-09-03 16:08:57,606 INFO mapreduce.Job: The url to track the job: http://localhost:8080/
2024-09-03 16:08:57,606 INFO mapreduce.Job: Running job: job_local1626368672_0001
2024-09-03 16:08:57,607 INFO mapred.LocalJobRunner: OutputCommitter set in config null
2024-09-03 16:08:57,637 INFO output.PathOutputCommitterFactory: No output committer factory defined, defaulting to FileOutputCom
mitterFactory
2024-09-03 16:08:57,638 INFO output.FileOutputCommitter: File Output Committer Algorithm version is 2
2024-09-03 16:08:57,638 INFO output.FileOutputCommitter: FileOutputCommitter skip cleanup _temporary folders under output direct
ory:false, ignore cleanup failures: false
2024-09-03 16:08:57,641 INFO mapred.LocalJobRunner: OutputCommitter is org.apache.hadoop.mapreduce.lib.output.FileOutputCommitte
r
2024-09-03 16:08:57,676 INFO mapred.LocalJobRunner: Waiting for map tasks
2024-09-03 16:08:57,676 INFO mapred.LocalJobRunner: Starting task: attempt_local1626368672_0001_m_000000_0
2024-09-03 16:08:57,711 INFO output.PathOutputCommitterFactory: No output committer factory defined, defaulting to FileOutputCom
mitterFactory
2024-09-03 16:08:57,712 INFO output.FileOutputCommitter: File Output Committer Algorithm version is 2
2024-09-03 16:08:57,712 INFO output.FileOutputCommitter: FileOutputCommitter skip cleanup _temporary folders under output direct
ory:false, ignore cleanup failures: false
2024-09-03 16:08:57,756 INFO mapred.Task:  Using ResourceCalculatorProcessTree : [ ]
2024-09-03 16:08:57,760 INFO mapred.MapTask: Processing split: file:/home/cnlab/weather_class/Input/1901:0+888190
```

```
        Map output records=6564
        Map output bytes=59076
        Map output materialized bytes=72210
        Input split bytes=106
        Combine input records=0
        Combine output records=0
        Reduce input groups=1
        Reduce shuffle bytes=72210
        Reduce input records=6564
        Reduce output records=1
        Spilled Records=13128
        Shuffled Maps =1
        Failed Shuffles=0
        Merged Map outputs=1
        GC time elapsed (ms)=7
        Total committed heap usage (bytes)=322961408
    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=888190
    File Output Format Counters
        Bytes Written=21
cnlab@cse-lab3-u-20:~/weather_class$ cat output1/*
1901    317
cnlab@cse-lab3-u-20:~/weather_class$
```