```
2019-10-07 00:13:15,134 INFO org.apache.hadoop.yarn.client.RMProxy (main): Connecting to
ResourceManager at ip-172-31-17-175.ec2.internal/172.31.17.175:8032
2019-10-07 00:13:19,612 INFO org.apache.hadoop.mapreduce.lib.input.FileInputFormat (main):
Total input files to process : 1
2019-10-07 00:13:19,627 INFO com.hadoop.compression.lzo.GPLNativeCodeLoader (main): Loaded
native gpl library
2019-10-07 00:13:19,630 INFO com.hadoop.compression.lzo.LzoCodec (main): Successfully
loaded & initialized native-lzo library [hadoop-lzo rev
082e98ac708024722b9a71933768ecad2e086acc]
2019-10-07 00:13:19,711 INFO org.apache.hadoop.mapreduce.JobSubmitter (main): number of
splits:20
2019-10-07 00:13:19,894 INFO org.apache.hadoop.mapreduce.JobSubmitter (main): Submitting
tokens for job: job_1570407019829_0001
2019-10-07 00:13:20,601 INFO org.apache.hadoop.yarn.client.api.impl.YarnClientImpl (main):
Submitted application application_1570407019829_0001
2019-10-07 00:13:20,722 INFO org.apache.hadoop.mapreduce.Job (main): The url to track the
job: http://ip-172-31-17-175.ec2.internal:20888/proxy/application_1570407019829_0001/
2019-10-07 00:13:20,723 INFO org.apache.hadoop.mapreduce.Job (main): Running job:
job_1570407019829_0001
2019-10-07 00:13:31,983 INFO org.apache.hadoop.mapreduce.Job (main): Job
job_1570407019829_0001 running in uber mode : false
2019-10-07 00:13:31,984 INFO org.apache.hadoop.mapreduce.Job (main):  map 0% reduce 0%
2019-10-07 00:13:56,177 INFO org.apache.hadoop.mapreduce.Job (main):  map 5% reduce 0%
2019-10-07 00:13:58,186 INFO org.apache.hadoop.mapreduce.Job (main):  map 10% reduce 0%
2019-10-07 00:14:12,257 INFO org.apache.hadoop.mapreduce.Job (main):  map 21% reduce 0%
2019-10-07 00:14:13,262 INFO org.apache.hadoop.mapreduce.Job (main):  map 24% reduce 0%
2019-10-07 00:14:14,268 INFO org.apache.hadoop.mapreduce.Job (main):  map 26% reduce 0%
2019-10-07 00:14:15,275 INFO org.apache.hadoop.mapreduce.Job (main):  map 34% reduce 0%
2019-10-07 00:14:16,279 INFO org.apache.hadoop.mapreduce.Job (main):  map 38% reduce 0%
2019-10-07 00:14:17,286 INFO org.apache.hadoop.mapreduce.Job (main):  map 43% reduce 0%
2019-10-07 00:14:18,291 INFO org.apache.hadoop.mapreduce.Job (main):  map 60% reduce 0%
2019-10-07 00:14:19,299 INFO org.apache.hadoop.mapreduce.Job (main):  map 67% reduce 0%
2019-10-07 00:14:20,304 INFO org.apache.hadoop.mapreduce.Job (main):  map 79% reduce 0%
2019-10-07 00:14:21,309 INFO org.apache.hadoop.mapreduce.Job (main):  map 86% reduce 0%
2019-10-07 00:14:22,314 INFO org.apache.hadoop.mapreduce.Job (main):  map 91% reduce 0%
2019-10-07 00:14:23,321 INFO org.apache.hadoop.mapreduce.Job (main):  map 98% reduce 0%
2019-10-07 00:14:24,329 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 0%
2019-10-07 00:14:37,406 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 16%
2019-10-07 00:14:38,410 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 23%
2019-10-07 00:14:40,420 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 39%
2019-10-07 00:14:42,428 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 46%
2019-10-07 00:14:43,432 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 62%
2019-10-07 00:14:44,436 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 70%
2019-10-07 00:14:46,443 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 72%
2019-10-07 00:14:49,458 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 73%
2019-10-07 00:15:01,519 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 74%
2019-10-07 00:15:02,523 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 75%
2019-10-07 00:15:07,551 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 76%
2019-10-07 00:15:16,593 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 77%
2019-10-07 00:15:19,610 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 78%
2019-10-07 00:15:20,614 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 80%
2019-10-07 00:15:25,637 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 81%
2019-10-07 00:15:26,641 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 82%
2019-10-07 00:15:30,668 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 83%
```

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2019-10-07 00:15:31,672 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 84%
2019-10-07 00:15:32,676 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 85%
2019-10-07 00:15:37,696 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 86%
2019-10-07 00:15:38,699 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 87%
2019-10-07 00:15:43,719 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 88%
2019-10-07 00:15:48,736 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 89%
2019-10-07 00:15:52,750 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 91%
2019-10-07 00:16:01,785 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 92%
2019-10-07 00:16:07,807 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 93%
2019-10-07 00:16:12,823 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 94%
2019-10-07 00:16:14,830 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 95%
2019-10-07 00:16:21,852 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 96%
2019-10-07 00:16:30,882 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 97%
2019-10-07 00:16:43,930 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 98%
2019-10-07 00:18:01,165 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 99%
2019-10-07 00:18:43,286 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 100%
2019-10-07 00:18:50,321 INFO org.apache.hadoop.mapreduce.Job (main): Job
job_1570407019829_0001 completed successfully
2019-10-07 00:18:50,466 INFO org.apache.hadoop.mapreduce.Job (main): Counters: 55
        File System Counters
                FILE: Number of bytes read=13540503
                FILE: Number of bytes written=32630305
                FILE: Number of read operations=0
                FILE: Number of large read operations=0
                FILE: Number of write operations=0
                HDFS: Number of bytes read=1900
                HDFS: Number of bytes written=0
                HDFS: Number of read operations=20
                HDFS: Number of large read operations=0
                HDFS: Number of write operations=0
                S3: Number of bytes read=1319442508
                S3: Number of bytes written=13639755451
                S3: Number of read operations=0
                S3: Number of large read operations=0
                S3: Number of write operations=0
        Job Counters
                Killed map tasks=1
                Launched map tasks=20
                Launched reduce tasks=9
                Data-local map tasks=20
                Total time spent by all maps in occupied slots (ms)=37961280
                Total time spent by all reduces in occupied slots (ms)=115567968
                Total time spent by all map tasks (ms)=790860
                Total time spent by all reduce tasks (ms)=1203833
                Total vcore-milliseconds taken by all map tasks=790860
                Total vcore-milliseconds taken by all reduce tasks=1203833
                Total megabyte-milliseconds taken by all map tasks=1214760960
                Total megabyte-milliseconds taken by all reduce tasks=3698174976
        Map-Reduce Framework
                Map input records=85331845
                Map output records=2313136
                Map output bytes=28587122
                Map output materialized bytes=14167989
                Input split bytes=1900
                Combine input records=0
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                  Combine output records=0
                  Reduce input groups=50000
                  Reduce shuffle bytes=14167989
                  Reduce input records=2313136
                  Reduce output records=1205631383
                  Spilled Records=4626272
                  Shuffled Maps =180
                  Failed Shuffles=0
                  Merged Map outputs=180
                  GC time elapsed (ms)=23614
                  CPU time spent (ms)=1378590
                  Physical memory (bytes) snapshot=23628312576
                  Virtual memory (bytes) snapshot=108204711936
                  Total committed heap usage (bytes)=20346044416
          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=1319442508
          File Output Format Counters
                  Bytes Written=13639755451
2019-10-07 00:18:50,564 INFO org.apache.hadoop.yarn.client.RMProxy (main): Connecting to
ResourceManager at ip-172-31-17-175.ec2.internal/172.31.17.175:8032
2019-10-07 00:18:50,836 INFO org.apache.hadoop.mapreduce.lib.input.FileInputFormat (main):
Total input files to process : 1
2019-10-07 00:18:50,970 INFO org.apache.hadoop.mapreduce.lib.input.FileInputFormat (main):
Total input files to process : 9
2019-10-07 00:18:51,054 INFO org.apache.hadoop.mapreduce.JobSubmitter (main): number of
splits:228
2019-10-07 00:18:51,120 INFO org.apache.hadoop.mapreduce.JobSubmitter (main): Submitting
tokens for job: job_1570407019829_0002
2019-10-07 00:18:51,150 INFO org.apache.hadoop.yarn.client.api.impl.YarnClientImpl (main):
Submitted application application_1570407019829_0002
2019-10-07 00:18:51,154 INFO org.apache.hadoop.mapreduce.Job (main): The url to track the
job: http://ip-172-31-17-175.ec2.internal:20888/proxy/application_1570407019829_0002/
2019-10-07 00:18:51,154 INFO org.apache.hadoop.mapreduce.Job (main): Running job:
job_1570407019829_0002
2019-10-07 00:19:01,377 INFO org.apache.hadoop.mapreduce.Job (main): Job
job_1570407019829_0002 running in uber mode : false
2019-10-07 00:19:01,377 INFO org.apache.hadoop.mapreduce.Job (main):  map 0% reduce 0%
2019-10-07 00:19:30,556 INFO org.apache.hadoop.mapreduce.Job (main):  map 1% reduce 0%
2019-10-07 00:19:37,590 INFO org.apache.hadoop.mapreduce.Job (main):  map 2% reduce 0%
2019-10-07 00:19:40,611 INFO org.apache.hadoop.mapreduce.Job (main):  map 3% reduce 0%
2019-10-07 00:19:42,624 INFO org.apache.hadoop.mapreduce.Job (main):  map 4% reduce 0%
2019-10-07 00:19:44,632 INFO org.apache.hadoop.mapreduce.Job (main):  map 5% reduce 0%
2019-10-07 00:19:46,640 INFO org.apache.hadoop.mapreduce.Job (main):  map 6% reduce 0%
2019-10-07 00:20:06,752 INFO org.apache.hadoop.mapreduce.Job (main):  map 7% reduce 0%
2019-10-07 00:20:13,786 INFO org.apache.hadoop.mapreduce.Job (main):  map 8% reduce 0%
2019-10-07 00:20:21,825 INFO org.apache.hadoop.mapreduce.Job (main):  map 9% reduce 0%
2019-10-07 00:20:40,901 INFO org.apache.hadoop.mapreduce.Job (main):  map 10% reduce 0%
2019-10-07 00:20:46,921 INFO org.apache.hadoop.mapreduce.Job (main):  map 11% reduce 0%
```

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2019-10-07 00:20:49,932 INFO org.apache.hadoop.mapreduce.Job (main):  map 12% reduce 0%
2019-10-07 00:20:53,945 INFO org.apache.hadoop.mapreduce.Job (main):  map 13% reduce 0%
2019-10-07 00:20:57,958 INFO org.apache.hadoop.mapreduce.Job (main):  map 14% reduce 0%
2019-10-07 00:21:25,062 INFO org.apache.hadoop.mapreduce.Job (main):  map 15% reduce 0%
2019-10-07 00:21:34,093 INFO org.apache.hadoop.mapreduce.Job (main):  map 16% reduce 0%
2019-10-07 00:21:41,122 INFO org.apache.hadoop.mapreduce.Job (main):  map 17% reduce 0%
2019-10-07 00:21:52,169 INFO org.apache.hadoop.mapreduce.Job (main):  map 18% reduce 0%
2019-10-07 00:22:07,223 INFO org.apache.hadoop.mapreduce.Job (main):  map 18% reduce 1%
2019-10-07 00:22:09,229 INFO org.apache.hadoop.mapreduce.Job (main):  map 19% reduce 1%
2019-10-07 00:22:12,239 INFO org.apache.hadoop.mapreduce.Job (main):  map 20% reduce 1%
2019-10-07 00:22:18,270 INFO org.apache.hadoop.mapreduce.Job (main):  map 21% reduce 1%
2019-10-07 00:22:23,285 INFO org.apache.hadoop.mapreduce.Job (main):  map 22% reduce 1%
2019-10-07 00:22:30,311 INFO org.apache.hadoop.mapreduce.Job (main):  map 23% reduce 1%
2019-10-07 00:22:54,392 INFO org.apache.hadoop.mapreduce.Job (main):  map 24% reduce 1%
2019-10-07 00:22:56,398 INFO org.apache.hadoop.mapreduce.Job (main):  map 25% reduce 1%
2019-10-07 00:23:12,468 INFO org.apache.hadoop.mapreduce.Job (main):  map 26% reduce 1%
2019-10-07 00:23:25,519 INFO org.apache.hadoop.mapreduce.Job (main):  map 27% reduce 1%
2019-10-07 00:23:34,551 INFO org.apache.hadoop.mapreduce.Job (main):  map 28% reduce 1%
2019-10-07 00:23:38,567 INFO org.apache.hadoop.mapreduce.Job (main):  map 29% reduce 2%
2019-10-07 00:23:41,580 INFO org.apache.hadoop.mapreduce.Job (main):  map 30% reduce 2%
2019-10-07 00:23:55,620 INFO org.apache.hadoop.mapreduce.Job (main):  map 31% reduce 2%
2019-10-07 00:24:14,689 INFO org.apache.hadoop.mapreduce.Job (main):  map 32% reduce 2%
2019-10-07 00:24:23,724 INFO org.apache.hadoop.mapreduce.Job (main):  map 33% reduce 2%
2019-10-07 00:24:26,733 INFO org.apache.hadoop.mapreduce.Job (main):  map 34% reduce 2%
2019-10-07 00:24:39,774 INFO org.apache.hadoop.mapreduce.Job (main):  map 35% reduce 2%
2019-10-07 00:24:44,789 INFO org.apache.hadoop.mapreduce.Job (main):  map 35% reduce 3%
2019-10-07 00:24:50,810 INFO org.apache.hadoop.mapreduce.Job (main):  map 36% reduce 3%
2019-10-07 00:24:56,826 INFO org.apache.hadoop.mapreduce.Job (main):  map 36% reduce 4%
2019-10-07 00:25:01,842 INFO org.apache.hadoop.mapreduce.Job (main):  map 37% reduce 4%
2019-10-07 00:25:07,857 INFO org.apache.hadoop.mapreduce.Job (main):  map 38% reduce 4%
2019-10-07 00:25:11,869 INFO org.apache.hadoop.mapreduce.Job (main):  map 39% reduce 4%
2019-10-07 00:25:42,963 INFO org.apache.hadoop.mapreduce.Job (main):  map 40% reduce 4%
2019-10-07 00:25:49,983 INFO org.apache.hadoop.mapreduce.Job (main):  map 41% reduce 4%
2019-10-07 00:26:01,012 INFO org.apache.hadoop.mapreduce.Job (main):  map 42% reduce 4%
2019-10-07 00:26:08,030 INFO org.apache.hadoop.mapreduce.Job (main):  map 42% reduce 5%
2019-10-07 00:26:17,054 INFO org.apache.hadoop.mapreduce.Job (main):  map 43% reduce 5%
2019-10-07 00:26:28,086 INFO org.apache.hadoop.mapreduce.Job (main):  map 44% reduce 5%
2019-10-07 00:26:32,099 INFO org.apache.hadoop.mapreduce.Job (main):  map 45% reduce 5%
2019-10-07 00:26:38,113 INFO org.apache.hadoop.mapreduce.Job (main):  map 46% reduce 5%
2019-10-07 00:27:09,191 INFO org.apache.hadoop.mapreduce.Job (main):  map 47% reduce 5%
2019-10-07 00:27:14,205 INFO org.apache.hadoop.mapreduce.Job (main):  map 48% reduce 5%
2019-10-07 00:27:20,225 INFO org.apache.hadoop.mapreduce.Job (main):  map 49% reduce 5%
2019-10-07 00:27:36,282 INFO org.apache.hadoop.mapreduce.Job (main):  map 49% reduce 7%
2019-10-07 00:27:43,301 INFO org.apache.hadoop.mapreduce.Job (main):  map 50% reduce 7%
2019-10-07 00:27:52,325 INFO org.apache.hadoop.mapreduce.Job (main):  map 51% reduce 7%
2019-10-07 00:28:08,365 INFO org.apache.hadoop.mapreduce.Job (main):  map 52% reduce 7%
2019-10-07 00:28:33,429 INFO org.apache.hadoop.mapreduce.Job (main):  map 53% reduce 7%
2019-10-07 00:28:39,445 INFO org.apache.hadoop.mapreduce.Job (main):  map 53% reduce 8%
2019-10-07 00:28:43,455 INFO org.apache.hadoop.mapreduce.Job (main):  map 54% reduce 8%
2019-10-07 00:29:01,501 INFO org.apache.hadoop.mapreduce.Job (main):  map 55% reduce 8%
2019-10-07 00:29:08,518 INFO org.apache.hadoop.mapreduce.Job (main):  map 56% reduce 8%
2019-10-07 00:29:19,546 INFO org.apache.hadoop.mapreduce.Job (main):  map 57% reduce 8%
2019-10-07 00:29:26,562 INFO org.apache.hadoop.mapreduce.Job (main):  map 58% reduce 8%
2019-10-07 00:29:46,613 INFO org.apache.hadoop.mapreduce.Job (main):  map 59% reduce 8%
2019-10-07 00:29:58,643 INFO org.apache.hadoop.mapreduce.Job (main):  map 60% reduce 8%
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2019-10-07 00:30:03,656 INFO org.apache.hadoop.mapreduce.Job (main):  map 60% reduce 9%
2019-10-07 00:30:08,668 INFO org.apache.hadoop.mapreduce.Job (main):  map 61% reduce 9%
2019-10-07 00:30:26,710 INFO org.apache.hadoop.mapreduce.Job (main):  map 62% reduce 9%
2019-10-07 00:30:35,731 INFO org.apache.hadoop.mapreduce.Job (main):  map 63% reduce 9%
2019-10-07 00:30:43,750 INFO org.apache.hadoop.mapreduce.Job (main):  map 64% reduce 9%
2019-10-07 00:30:49,767 INFO org.apache.hadoop.mapreduce.Job (main):  map 65% reduce 9%
2019-10-07 00:31:09,817 INFO org.apache.hadoop.mapreduce.Job (main):  map 66% reduce 9%
2019-10-07 00:31:20,845 INFO org.apache.hadoop.mapreduce.Job (main):  map 67% reduce 9%
2019-10-07 00:31:24,858 INFO org.apache.hadoop.mapreduce.Job (main):  map 67% reduce 10%
2019-10-07 00:31:32,878 INFO org.apache.hadoop.mapreduce.Job (main):  map 68% reduce 10%
2019-10-07 00:31:48,914 INFO org.apache.hadoop.mapreduce.Job (main):  map 69% reduce 10%
2019-10-07 00:32:01,943 INFO org.apache.hadoop.mapreduce.Job (main):  map 70% reduce 10%
2019-10-07 00:32:06,957 INFO org.apache.hadoop.mapreduce.Job (main):  map 71% reduce 10%
2019-10-07 00:32:15,978 INFO org.apache.hadoop.mapreduce.Job (main):  map 72% reduce 10%
2019-10-07 00:32:32,019 INFO org.apache.hadoop.mapreduce.Job (main):  map 73% reduce 10%
2019-10-07 00:32:38,034 INFO org.apache.hadoop.mapreduce.Job (main):  map 73% reduce 11%
2019-10-07 00:32:46,055 INFO org.apache.hadoop.mapreduce.Job (main):  map 74% reduce 11%
2019-10-07 00:32:57,091 INFO org.apache.hadoop.mapreduce.Job (main):  map 75% reduce 11%
2019-10-07 00:33:14,132 INFO org.apache.hadoop.mapreduce.Job (main):  map 76% reduce 11%
2019-10-07 00:33:26,160 INFO org.apache.hadoop.mapreduce.Job (main):  map 77% reduce 11%
2019-10-07 00:33:32,176 INFO org.apache.hadoop.mapreduce.Job (main):  map 78% reduce 11%
2019-10-07 00:33:39,191 INFO org.apache.hadoop.mapreduce.Job (main):  map 79% reduce 11%
2019-10-07 00:33:57,230 INFO org.apache.hadoop.mapreduce.Job (main):  map 80% reduce 11%
2019-10-07 00:33:59,234 INFO org.apache.hadoop.mapreduce.Job (main):  map 80% reduce 12%
2019-10-07 00:34:10,259 INFO org.apache.hadoop.mapreduce.Job (main):  map 81% reduce 12%
2019-10-07 00:34:20,287 INFO org.apache.hadoop.mapreduce.Job (main):  map 82% reduce 12%
2019-10-07 00:34:41,338 INFO org.apache.hadoop.mapreduce.Job (main):  map 83% reduce 12%
2019-10-07 00:34:51,360 INFO org.apache.hadoop.mapreduce.Job (main):  map 84% reduce 12%
2019-10-07 00:34:53,364 INFO org.apache.hadoop.mapreduce.Job (main):  map 85% reduce 12%
2019-10-07 00:35:01,387 INFO org.apache.hadoop.mapreduce.Job (main):  map 86% reduce 12%
2019-10-07 00:35:18,427 INFO org.apache.hadoop.mapreduce.Job (main):  map 86% reduce 13%
2019-10-07 00:35:24,442 INFO org.apache.hadoop.mapreduce.Job (main):  map 87% reduce 13%
2019-10-07 00:35:34,462 INFO org.apache.hadoop.mapreduce.Job (main):  map 88% reduce 13%
2019-10-07 00:35:42,479 INFO org.apache.hadoop.mapreduce.Job (main):  map 89% reduce 13%
2019-10-07 00:36:02,529 INFO org.apache.hadoop.mapreduce.Job (main):  map 90% reduce 13%
2019-10-07 00:36:16,562 INFO org.apache.hadoop.mapreduce.Job (main):  map 91% reduce 13%
2019-10-07 00:36:21,572 INFO org.apache.hadoop.mapreduce.Job (main):  map 92% reduce 13%
2019-10-07 00:36:23,577 INFO org.apache.hadoop.mapreduce.Job (main):  map 93% reduce 13%
2019-10-07 00:36:42,619 INFO org.apache.hadoop.mapreduce.Job (main):  map 93% reduce 14%
2019-10-07 00:36:46,628 INFO org.apache.hadoop.mapreduce.Job (main):  map 94% reduce 14%
2019-10-07 00:37:03,666 INFO org.apache.hadoop.mapreduce.Job (main):  map 95% reduce 14%
2019-10-07 00:37:04,669 INFO org.apache.hadoop.mapreduce.Job (main):  map 96% reduce 14%
2019-10-07 00:37:30,741 INFO org.apache.hadoop.mapreduce.Job (main):  map 97% reduce 14%
2019-10-07 00:37:36,765 INFO org.apache.hadoop.mapreduce.Job (main):  map 98% reduce 14%
2019-10-07 00:37:38,770 INFO org.apache.hadoop.mapreduce.Job (main):  map 99% reduce 14%
2019-10-07 00:37:42,779 INFO org.apache.hadoop.mapreduce.Job (main):  map 99% reduce 15%
2019-10-07 00:37:54,810 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 15%
2019-10-07 00:37:55,812 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 20%
2019-10-07 00:37:57,819 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 22%
2019-10-07 00:37:58,821 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 23%
2019-10-07 00:38:04,835 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 26%
2019-10-07 00:38:09,859 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 28%
2019-10-07 00:38:10,862 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 29%
2019-10-07 00:38:12,866 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 33%
2019-10-07 00:38:13,869 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 35%
```

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2019-10-07 00:38:15,874 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 37%
2019-10-07 00:38:18,882 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 41%
2019-10-07 00:38:22,891 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 42%
2019-10-07 00:38:23,894 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 44%
2019-10-07 00:38:24,896 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 45%
2019-10-07 00:38:30,910 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 46%
2019-10-07 00:38:39,938 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 47%
2019-10-07 00:38:44,957 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 50%
2019-10-07 00:38:45,960 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 51%
2019-10-07 00:38:48,967 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 52%
2019-10-07 00:38:54,983 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 53%
2019-10-07 00:39:01,001 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 54%
2019-10-07 00:39:07,015 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 55%
2019-10-07 00:39:08,018 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 56%
2019-10-07 00:39:12,027 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 57%
2019-10-07 00:39:16,036 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 58%
2019-10-07 00:39:28,065 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 59%
2019-10-07 00:39:33,076 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 61%
2019-10-07 00:39:34,078 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 62%
2019-10-07 00:39:39,089 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 67%
2019-10-07 00:39:40,092 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 70%
2019-10-07 00:39:43,098 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 71%
2019-10-07 00:39:45,103 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 72%
2019-10-07 00:39:51,115 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 73%
2019-10-07 00:39:55,124 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 74%
2019-10-07 00:39:56,127 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 77%
2019-10-07 00:40:00,135 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 79%
2019-10-07 00:40:01,138 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 80%
2019-10-07 00:40:02,140 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 81%
2019-10-07 00:40:06,149 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 83%
2019-10-07 00:40:07,152 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 84%
2019-10-07 00:40:10,158 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 85%
2019-10-07 00:40:15,172 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 86%
2019-10-07 00:40:20,183 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 87%
2019-10-07 00:40:22,188 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 88%
2019-10-07 00:40:27,199 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 89%
2019-10-07 00:40:32,210 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 90%
2019-10-07 00:40:34,214 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 91%
2019-10-07 00:40:39,225 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 92%
2019-10-07 00:40:44,235 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 93%
2019-10-07 00:40:46,240 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 94%
2019-10-07 00:40:51,251 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 95%
2019-10-07 00:40:57,266 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 96%
2019-10-07 00:41:06,295 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 97%
2019-10-07 00:41:20,325 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 98%
2019-10-07 00:41:36,359 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 99%
2019-10-07 00:41:48,394 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 100%
2019-10-07 00:41:58,420 INFO org.apache.hadoop.mapreduce.Job (main): Job
job_1570407019829_0002 completed successfully
2019-10-07 00:41:58,460 INFO org.apache.hadoop.mapreduce.Job (main): Counters: 56
        File System Counters
                FILE: Number of bytes read=11000814275
                FILE: Number of bytes written=18546949849
                FILE: Number of read operations=0
                FILE: Number of large read operations=0
```

```
                FILE: Number of write operations=0
                HDFS: Number of bytes read=57908
                HDFS: Number of bytes written=0
                HDFS: Number of read operations=228
                HDFS: Number of large read operations=0
                HDFS: Number of write operations=0
                S3: Number of bytes read=14961229865
                S3: Number of bytes written=0
                S3: Number of read operations=0
                S3: Number of large read operations=0
                S3: Number of write operations=0
        Job Counters
                Killed map tasks=2
                Launched map tasks=228
                Launched reduce tasks=9
                Data-local map tasks=228
                Total time spent by all maps in occupied slots (ms)=642208512
                Total time spent by all reduces in occupied slots (ms)=462649248
                Total time spent by all map tasks (ms)=13379344
                Total time spent by all reduce tasks (ms)=4819263
                Total vcore-milliseconds taken by all map tasks=13379344
                Total vcore-milliseconds taken by all reduce tasks=4819263
                Total megabyte-milliseconds taken by all map tasks=20550672384
                Total megabyte-milliseconds taken by all reduce tasks=14804775936
        Map-Reduce Framework
                Map input records=1290963228
                Map output records=1290963228
                Map output bytes=17455631887
                Map output materialized bytes=7601449920
                Input split bytes=57908
                Combine input records=0
                Combine output records=0
                Reduce input groups=387425048
                Reduce shuffle bytes=7601449920
                Reduce input records=1290963228
                Reduce output records=0
                Spilled Records=3762115482
                Shuffled Maps =2052
                Failed Shuffles=0
                Merged Map outputs=2052
                GC time elapsed (ms)=171557
                CPU time spent (ms)=8518410
                Physical memory (bytes) snapshot=173771407360
                Virtual memory (bytes) snapshot=797278912512
                Total committed heap usage (bytes)=159714902016
        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=0
        File Output Format Counters
```

```
                Bytes Written=0
        tc.RSJoinTriangleCount$COUNTER
                TriangleCount=36089721
  2019-10-07 00:41:58,470 INFO tc.RSJoinTriangleCount (main): TriangleCount:12029907
```