Part 1

I ran the max_temperature script for all the 4 data sets and have also observed the execution of each job.

Execution times for the data sets with the RAM are as follows:

This is for 1024 MB RAM

```
vagrant@vagrant-ubuntu-trusty-64:/vagrant/hadoop-book-master/ch02-mr-intro/src/main/awk$ time ./max_temperature.sh
1990    607

real    1m9.462s
user    0m59.676s
sys     0m9.692s
vagrant@vagrant-ubuntu-trusty-64:/vagrant/hadoop-book-master/ch02-mr-intro/src/main/awk$ clear

vagrant@vagrant-ubuntu-trusty-64:/vagrant/hadoop-book-master/ch02-mr-intro/src/main/awk$ time ./max_temperature.sh
1990    607

real    1m31.836s
user    1m16.938s
sys     0m14.539s
vagrant@vagrant-ubuntu-trusty-64:/vagrant/hadoop-book-master/ch02-mr-intro/src/main/awk$ time ./max_temperature.sh
1991    607

real    4m22.223s
user    3m45.833s
sys     0m35.843s
vagrant@vagrant-ubuntu-trusty-64:/vagrant/hadoop-book-master/ch02-mr-intro/src/main/awk$ time ./max_temperature.sh
1992    605

real    7m41.673s
user    6m28.589s
sys     1m8.100s
vagrant@vagrant-ubuntu-trusty-64:/vagrant/hadoop-book-master/ch02-mr-intro/src/main/awk$ time ./max_temperature.sh
1993    567

real    4m32.290s
user    3m49.082s
sys     0m40.445s
vagrant@vagrant-ubuntu-trusty-64:/vagrant/hadoop-book-master/ch02-mr-intro/src/main/awk$
```
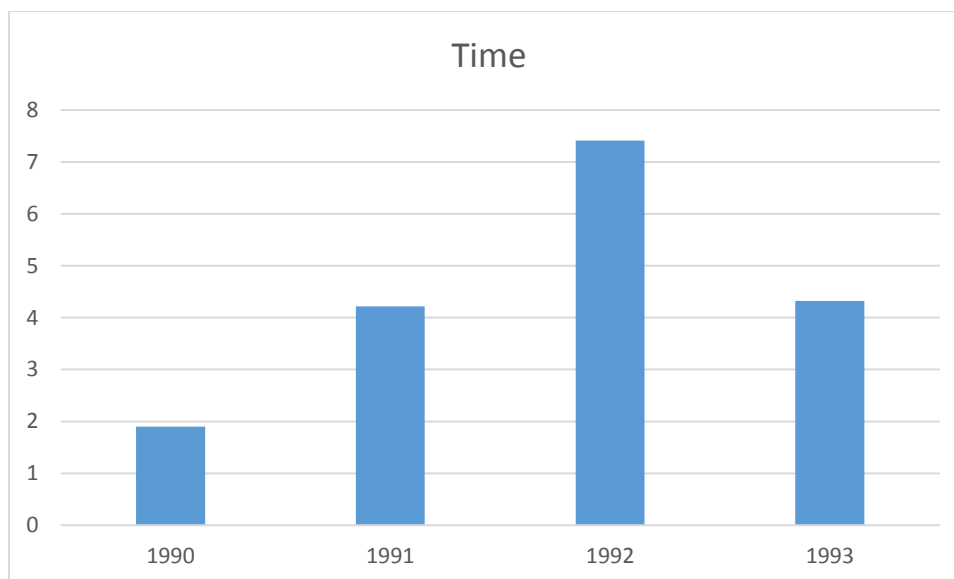
Time taken for every year -

The time taken for every year is directly proportional to the size of the data.