Performance Report

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1.0 Purpose

The purpose of this program and assignment is to discover the effect of GOMAXPROCS on the runtime of goroutines. We wished to see if the amount of processing cores changed this time.

2.0 Requirements

No requirements outside of what it would normally take to run a go program.

3.0 Instructions

To run this program you must:

1. Respond to the prompt asking you to put in three urls.
2. The websites must be of the form <website.domain>
3. After inputting three websites, the program will run for several minutes and output the time it took to run one hundred pings.

4.0 Output

4.1 Code Output

The code outputs the website and its corresponding time. The time is the total time it took to ping the website one hundred times. There are three routines running for each website.

In addition, there are errors when attempting to ping foreign websites. This could be because the specific website we pinged was the Russian government's. It is reasonable to think the Kremlin disallows pings to heighten security, messing with our data.

```
Thanks! We will try 100 pings to google.com , bc.edu , and government.ru
Error! exit status 2
Error! exit status 2
Error! exit status 2
bc.edu is:  1m39.245625574s
bc.edu is:  1m39.245847793s
bc.edu is:  1m39.246095058s
google.com is:  1m39.252897879s
google.com is:  1m39.253345497s
google.com is:  1m39.255462402s
government.ru is:  1m50.517833802s
government.ru is:  1m50.51704379s
government.ru is:  1m50.54378266s
total main time: 1m50.544032351s

Process finished with the exit code 0
```
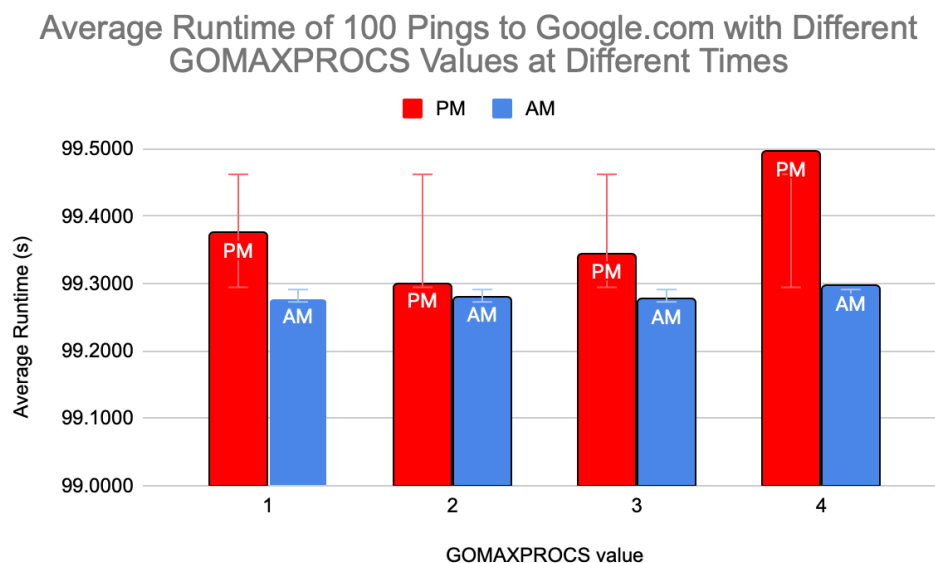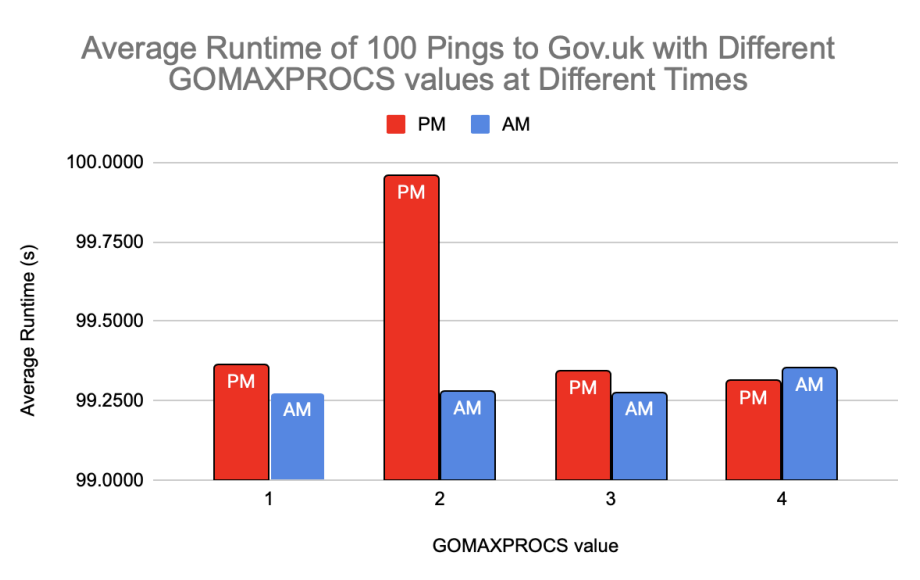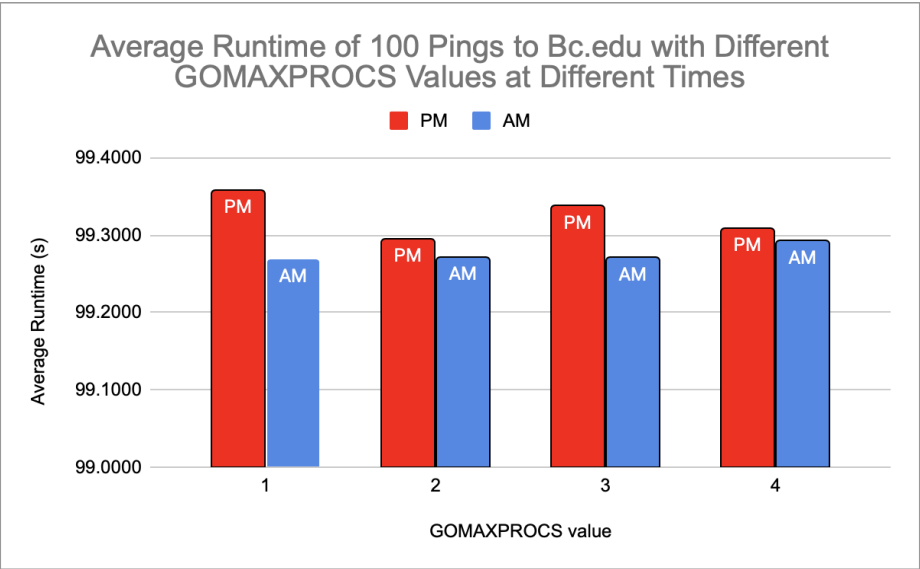
4.2 Data Analysis

      We directly inputted the times into an excel spreadsheet and created bar graphs with the data.
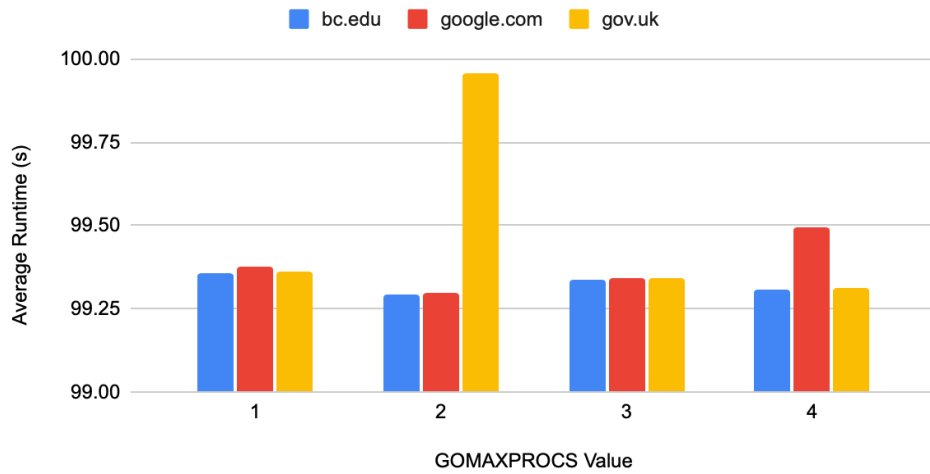
4.3 Discussion of Results

      The data shows that the average runtime did not change much with more cores. Even though we could run the routines through more cores the times stayed consistent. This shows that goroutines are so efficient that increasing the number of cores does not actually affect the speed of the program.

Average Runtime of 100 Pings to Google.com with Different GOMAXPROCS Values at Different Times

Average Runtime of 100 Pings to Bc.edu with Different GOMAXPROCS Values at Different Times

■ PM ■ AM

Average Runtime (s)

99.4000
99.3000
99.2000
99.1000
99.0000

1   2   3   4

GOMAXPROCS value

Average Runtime of 100 Pings to Gov.uk with Different GOMAXPROCS values at Different Times

■ PM ■ AM

Average Runtime (s)

100.0000
99.7500
99.5000
99.2500
99.0000

1   2   3   4

GOMAXPROCS value

Average PM Runtime of Different URLs at Different GOMAXPROCS Values

bc.edu google.com gov.uk

Average AM Runtime of Different URLs at Different GOMAXPROCS Values

bc.edu google.com gov.uk