

SOEN 345 - Software Testing, Verification, and
Quality Assurance
Assignment 5

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Question 1

a) First let's take a look at the 10 lowest latencies for each website:

```
- List of 10 lower latencies for Concordia:
53      81
15      85
54      87
61      90
93      91
94      92
55      92
96      93
6       93
52      93
```

```
- List of 10 lower latencies for Amazon:
0       258
1       281
9       309
25      350
52      362
8       382
71      389
11      394
85      411
38      420
```

Values for Amazon are way higher than those for Concordia. This is confirmed when we take a look at the average latency for each. While requests to `concordia.ca` have an average latency of 110.71ms, those to `amazon.ca` have an average latency of 651.37ms.

Since we know there is significantly more successful requests to `concordia.ca`, we want to know if it has an impact on the fact that requests to `amazon.ca` have such a higher latency in average. We find out that successful requests to `amazon.ca` have an average latency of 677.48ms.

- b) 100 requests are sent for both websites.
- c) Requests to `concordia.ca` were all successfully processed. However, for `amazon.ca` only 62 of the 100 requests were successfully processed.
- d) There are significant differences between results of requests sent to `concordia.ca` compared to those sent to `amazon.ca` both in latency and in success rate. This can be due to the fact that `amazon.ca` protects itself from attacks and hence tend to block requests issued by simulated users. If not, it would be possible to conduct attacks against websites and make them eventually crash if more requests than servers can handle are made.

Question 2

- a) BlazeMeter allows to seamlessly build complex, scalable, and flexible tests by allowing the user to choose among a wide variety of tests. The way it is used directly from within the browser reminds of Selenium IDE. Tests are easily exportable to .jmx format and can be used with JMeter for further modification, for example, modify test scale.

Test plan script for Part B as well as aggregate report file are joined with this submission as Part_B.jmx, partB_aggregate.csv respectively.

Question 3

Test plan script for Part C, result file, and a screenshot of the execution of JMeter in CLI mode are joined with this submission as Part_C.jmx, part_c_results.jtl, and JMeterExecutionCLIMode.png respectively.

```
alihanni@Ali A5 % jmeter -n -t part_C.jmx -l part_c_results.jtl
WARNING: package sun.awt.X11 not in java.desktop
Creating summariser <summary>
Created the tree successfully using part_C.jmx
Starting standalone test @ Tue Mar 22 12:46:28 EDT 2022 (1647967588377)
Waiting for possible Shutdown/StopTestNow/HeapDump/ThreadDump message on port 4445
summary + 1 in 00:00:02 = 0.6/s Avg: 535 Min: 535 Max: 535 Err: 0 (0.00%) Active: 2 Started: 2 Finished: 0
summary + 24 in 00:01:00 = 0.4/s Avg: 459 Min: 238 Max: 1117 Err: 0 (0.00%) Active: 10 Started: 15 Finished: 5
summary + 25 in 00:01:02 = 0.4/s Avg: 462 Min: 238 Max: 1117 Err: 0 (0.00%)
summary + 11 in 00:00:33 = 0.3/s Avg: 424 Min: 245 Max: 1302 Err: 0 (0.00%) Active: 5 Started: 15 Finished: 10
summary + 36 in 00:01:35 = 0.4/s Avg: 450 Min: 238 Max: 1302 Err: 0 (0.00%)
summary + 22 in 00:00:30 = 0.7/s Avg: 794 Min: 297 Max: 1578 Err: 0 (0.00%) Active: 15 Started: 30 Finished: 15
summary + 58 in 00:02:05 = 0.5/s Avg: 547 Min: 238 Max: 1578 Err: 0 (0.00%)
summary + 10 in 00:00:32 = 0.3/s Avg: 296 Min: 234 Max: 354 Err: 0 (0.00%) Active: 11 Started: 30 Finished: 19
summary + 68 in 00:02:37 = 0.4/s Avg: 510 Min: 234 Max: 1578 Err: 0 (0.00%)
summary + 39 in 00:00:25 = 1.6/s Avg: 446 Min: 230 Max: 887 Err: 0 (0.00%) Active: 20 Started: 50 Finished: 30
summary + 107 in 00:03:02 = 0.6/s Avg: 487 Min: 230 Max: 1578 Err: 0 (0.00%)
summary + 15 in 00:00:30 = 0.5/s Avg: 314 Min: 236 Max: 397 Err: 0 (0.00%) Active: 12 Started: 50 Finished: 38
summary + 122 in 00:03:32 = 0.6/s Avg: 465 Min: 230 Max: 1578 Err: 0 (0.00%)
summary + 12 in 00:00:19 = 0.6/s Avg: 358 Min: 243 Max: 479 Err: 0 (0.00%) Active: 0 Started: 50 Finished: 50
summary + 134 in 00:03:51 = 0.6/s Avg: 456 Min: 230 Max: 1578 Err: 0 (0.00%)
Tidying up ... @ Tue Mar 22 12:50:19 EDT 2022 (1647967819502)
... end of run
```

Execution of JMeter in CLI mode.