

CSE 489/589

Programming Assignment 2 Report

Reliable Transport Protocols

Notes: **(IMPORTANT)**

- One of your group members select <File> - <Make a copy> to make a copy of this report for your group, and share that Google Doc copy with your teammates so that they can also edit it.
- Report your work in each section. Describe the method you used, the obstacles you met, how you solved them, and the results. You can take screenshots at key points. There are NO hard requirements for your description.
- For a certain test, if you successfully implemented it, **take a screenshot of the result from the grader as required in section 5 (required)**. You can just provide the overall result for each test.
- For a certain test, if you tried but failed to implement it, properly describe your work. We will partially grade it based on the work you did.
- **Do NOT claim anything you didn't implement.** If you didn't try on a certain protocol or test, leave that section blank. We will randomly check your code, and if it does not match the work you claimed, you and your group won't get any partial grade score for this WHOLE assignment.
- There will be **15.0** points for this report. These are NOT bonus points and will be given based on the completion of the analysis part (section 6.1).
- If you decide not to attempt the analysis part (section 6.1) of the assignment, you will still NEED to submit this report with the requirements stated in section 6.
- After you finish, export this report as a PDF file and submit it to the UBLearn. For each group, only one member needs to make the submission.
- All the analysis results in section 6 should come from one of the provided hosts, NOT on your local machine (see section 3.1 in the handout).
- The maximum score for PA 2: $85 + 15 = 100$

1 - Academic Integrity Policy Statement

[Your submission will NOT be graded without this statement.]

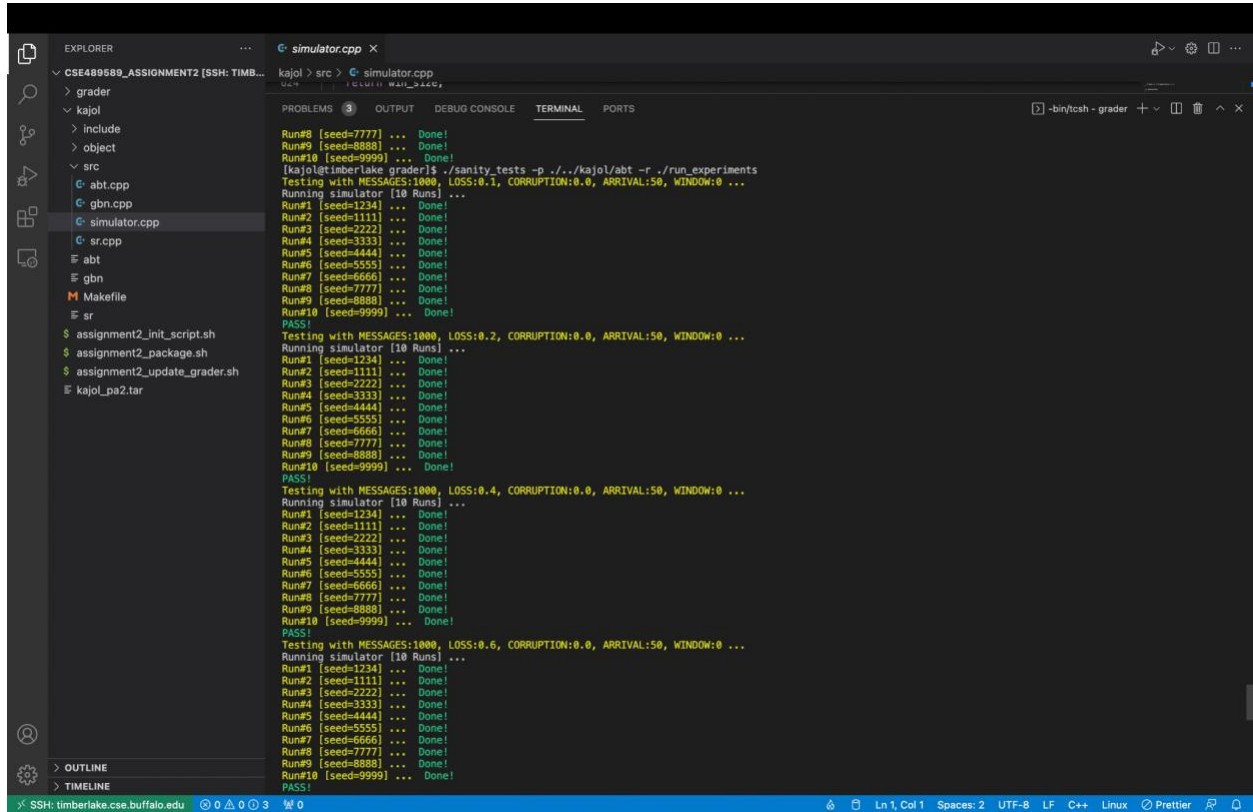
Kajol and Aishwarya, have read and understood the course academic integrity policy.

2 - Group and Contributions

- Name of member 1:
 - UBITName: kajol
 - Contributions : Worked on ABT and GBN test cases (Sanity, Basic, and Advanced)
- Name of member 2:
 - UBITName: amehta9
 - Contributions: Worked on ABT and SR test cases (Sanity, Basic, and Advanced) and debugging of issues.

3 - SANITY Tests

[2.0] ABT



```
kajol > src > simulator.cpp
[ka]ol@timberlake grader$ ./sanity_tests -p ./../kajol/abt -r ./run_experiments
Testing with MESSAGES:1000, LOSS:0.1, CORRUPTION:0.0, ARRIVAL:50, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.2, CORRUPTION:0.0, ARRIVAL:50, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.4, CORRUPTION:0.0, ARRIVAL:50, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.6, CORRUPTION:0.0, ARRIVAL:50, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
```

EXPLORER ... simulator.cpp X

CSE489S89_ASSIGNMENT2 (SSH: TIMB...

grader

kajol

include

object

src

abrt.cpp

gdn.cpp

simulator.cpp

sr.cpp

abt

gdn

Makefile

sr

assignment2_init_script.sh

assignment2_package.sh

assignment2_update_grader.sh

kajol_pa2.tar

PROBLEMS 3 OUTPUT DEBUG CONSOLE TERMINAL PORTS

-bin/tcsh - grader + + + + +

PASS1

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.0, ARRIVAL:50, WINDOW:0 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS1

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.1, ARRIVAL:50, WINDOW:0 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS1

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.2, ARRIVAL:50, WINDOW:0 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS1

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.4, ARRIVAL:50, WINDOW:0 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS1

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.6, ARRIVAL:50, WINDOW:0 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Ln 1, Col 1 Spaces: 2 UTF-8 LF C++ Linux Prettier

EXPLORER ... simulator.cpp X

CSE489S89_ASSIGNMENT2 (SSH: TIMB...

grader

kajol

include

object

src

abrt.cpp

gdn.cpp

simulator.cpp

sr.cpp

abt

gdn

Makefile

sr

assignment2_init_script.sh

assignment2_package.sh

assignment2_update_grader.sh

kajol_pa2.tar

PROBLEMS 3 OUTPUT DEBUG CONSOLE TERMINAL PORTS

-bin/tcsh - grader + + + + +

PASS1

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.6, ARRIVAL:50, WINDOW:0 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS1

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.8, ARRIVAL:50, WINDOW:0 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS1

Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.0, ARRIVAL:1000, WINDOW:0 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS1

Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:1.0, ARRIVAL:1000, WINDOW:0 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Ln 1, Col 1 Spaces: 2 UTF-8 LF C++ Linux Prettier

EXPLORER

CSE489589_ASSIGNMENT2 (SSH: TIMB...

grader

kajol

include

object

src

abt.cpp

gbn.cpp

simulator.cpp

sr.cpp

abt

gbn

Makefile

sr

assignment2_init_script.sh

assignment2_package.sh

assignment2_update_grader.sh

kajol_pa2.tar

simulator.cpp

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

-bin/tcsh - grader

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.8, ARRIVAL:50, WINDOW:0 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.0, ARRIVAL:1000, WINDOW:0 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:20, LOSS:1.0, CORRUPTION:0.0, ARRIVAL:1000, WINDOW:0 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:1.0, ARRIVAL:1000, WINDOW:0 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

SANITY TESTS: PASS

[kajol@timberlake grader]\$

SSH: timberlake.cse.buffalo.edu

0 0 0 3

Ln 1, Col 1

Spaces: 2

UTF-8

LF

C++

Linux

Prettier

[5.0] GBN

The image displays two screenshots of a Visual Studio Code editor window, showing the execution of a GBN (Gommet-Bellman-Nakagami) simulator. The editor is open to a file named `simulator.cpp` in the `src` directory of a project named `CSE489S99_ASSIGNMENT2 [SSH: TIMB...`. The terminal output shows the results of running the simulator, including basic tests and multiple runs with varying parameters.

Terminal Output (Left Screenshot):

```
BASIC TESTS: PASS
[kajol@timberlake grader]$ ./sanity_tests -p ../../kajol/gbn -r ./run_experiments
Testing with MESSAGES:1000, LOSS:0.1, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.2, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.4, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.6, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.8, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
```

Terminal Output (Right Screenshot):

```
PASS!
Testing with MESSAGES:1000, LOSS:0.8, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.1, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.2, CORRUPTION:0.2, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.4, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.6, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
```


EXPLORER

CSE489S89_ASSIGNMENT2 [SSH: TIMB...

grader

kajol

include

object

src

abt.cpp

gbn.cpp

simulator.cpp

sr.cpp

abt

gbn

Makefile

sr

assignment2_init_script.sh

assignment2_package.sh

assignment2_update_grader.sh

kajol_pa2.tar

simulator.cpp

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

-bin/tcsh - grader

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.6, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.8, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.0, ARRIVAL:50, WINDOW:50 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:20, LOSS:1.0, CORRUPTION:0.0, ARRIVAL:50, WINDOW:50 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:1.0, ARRIVAL:50, WINDOW:50 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

EXPLORER

CSE489S89_ASSIGNMENT2 [SSH: TIMB...

grader

kajol

include

object

src

abt.cpp

gbn.cpp

simulator.cpp

sr.cpp

abt

gbn

Makefile

sr

assignment2_init_script.sh

assignment2_package.sh

assignment2_update_grader.sh

kajol_pa2.tar

simulator.cpp

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

-bin/tcsh - grader

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.8, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.0, ARRIVAL:50, WINDOW:50 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:20, LOSS:1.0, CORRUPTION:0.0, ARRIVAL:50, WINDOW:50 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:1.0, ARRIVAL:50, WINDOW:50 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

SANITY TESTS: PASS

[kajol@timberlake grader]\$

[8.0] SR

```
EXPLORER
CSE489S89_ASSIGNMENT2 [SSH: TIMB...
  grader
  kajol
  include
  object
  src
    abt.cpp
    gbn.cpp
    simulator.cpp
    sr.cpp
  abt
  gbn
  Makefile
  sr
  assignment2_init_script.sh
  assignment2_package.sh
  assignment2_update_grader.sh
  kajol_pa2.tar

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS
[SSH: timberlake.cse.buffalo.edu] -bin/tcsh - grader
SANITY TESTS: PASS
[kajol@timberlake grader]$ ./sanity_tests -p ./../kajol/sr -r ./run_experiments
Testing with MESSAGES:1000, LOSS:0.1, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.2, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.4, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.6, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.8, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.4, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.6, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
```

```
EXPLORER
CSE489S89_ASSIGNMENT2 [SSH: TIMB...
  grader
  kajol
  include
  object
  src
    abt.cpp
    gbn.cpp
    simulator.cpp
    sr.cpp
  abt
  gbn
  Makefile
  sr
  assignment2_init_script.sh
  assignment2_package.sh
  assignment2_update_grader.sh
  kajol_pa2.tar

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS
[SSH: timberlake.cse.buffalo.edu] -bin/tcsh - grader
PASS!
Testing with MESSAGES:1000, LOSS:0.8, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.1, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.2, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.4, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.6, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
```

EXPLORER

CSE489S89_ASSIGNMENT2 [SSH: TIMB...

grader

kajol

include

object

src

abrt.cpp

gdn.cpp

simulator.cpp

sr.cpp

abt

gdn

Makefile

sr

assignment2_init_script.sh

assignment2_package.sh

assignment2_update_grader.sh

kajol_pa2.tar

OUTLINE

TIMELINE

simulator.cpp

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.6, ARRIVAL:50, WINDOW:10 ...

PASS!

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.8, ARRIVAL:50, WINDOW:10 ...

PASS!

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.0, ARRIVAL:50, WINDOW:50 ...

PASS!

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:20, LOSS:1.0, CORRUPTION:0.0, ARRIVAL:50, WINDOW:50 ...

PASS!

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

SSH: timberlake.cse.buffalo.edu

0 0 0 1

Ln 1, Col 1

Spaces: 2

UTF-8

LF

C++

Linux

Prettier

EXPLORER

CSE489S89_ASSIGNMENT2 [SSH: TIMB...

grader

kajol

include

object

src

abrt.cpp

gdn.cpp

simulator.cpp

sr.cpp

abt

gdn

Makefile

sr

assignment2_init_script.sh

assignment2_package.sh

assignment2_update_grader.sh

kajol_pa2.tar

OUTLINE

TIMELINE

simulator.cpp

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.8, ARRIVAL:50, WINDOW:10 ...

PASS!

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.0, ARRIVAL:50, WINDOW:50 ...

PASS!

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:20, LOSS:1.0, CORRUPTION:0.0, ARRIVAL:50, WINDOW:50 ...

PASS!

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

SANITY TESTS: PASS

[kajol@timberlake grader]\$

SSH: timberlake.cse.buffalo.edu

0 0 0 1

Ln 1, Col 1

Spaces: 2

UTF-8

LF

C++

Linux

Prettier

4 - BASIC Tests

[5.0] ABT

```
EXPLORER
CSE489S89_ASSIGNMENT2 [SSH: TIMB...
  grader
  kajol
  include
  object
  src
    abt.cpp
    gbn.cpp
    simulator.cpp
    sr.cpp
  abt
  gbn
  Makefile
  sr
  assignment2_init_script.sh
  assignment2_package.sh
  assignment2_update_grader.sh
  kajol_pa2.tar
  OUTLINE
  TIMELINE

simulator.cpp X
kajol > src > simulator.cpp > ...
[ka]ol@timberlake grader$ ./basic_tests -p ./../kajol/abt -r ./run_experiments
Testing with MESSAGES:20, LOSS:0.1, CORRUPTION:0.0, ARRIVAL:1000, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.4, CORRUPTION:0.0, ARRIVAL:1000, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.0, ARRIVAL:1000, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.1, ARRIVAL:1000, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.4, ARRIVAL:1000, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.0, ARRIVAL:1000, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.1, ARRIVAL:1000, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.0, ARRIVAL:1000, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.4, ARRIVAL:1000, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.0, ARRIVAL:1000, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
BASIC TESTS: PASS
[kajol@timberlake grader]$
```

[12.0] GBN

```
Run#10 [seed=9999] ... Done!
PASS!
BASIC TESTS: PASS
[kajol@timberlake grader]$ ./basic_tests -p ../../kajol/gbn -r ./run_experiments
Testing with MESSAGES:20, LOSS:0.1, CORRUPTION:0.0, ARRIVAL:50, WINDOW:50 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.4, CORRUPTION:0.0, ARRIVAL:50, WINDOW:50 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.8, CORRUPTION:0.0, ARRIVAL:50, WINDOW:50 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.1, ARRIVAL:50, WINDOW:50 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
```

```
Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.4, ARRIVAL:50, WINDOW:50 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.8, ARRIVAL:50, WINDOW:50 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
BASIC TESTS: PASS
[kajol@timberlake grader]$
```

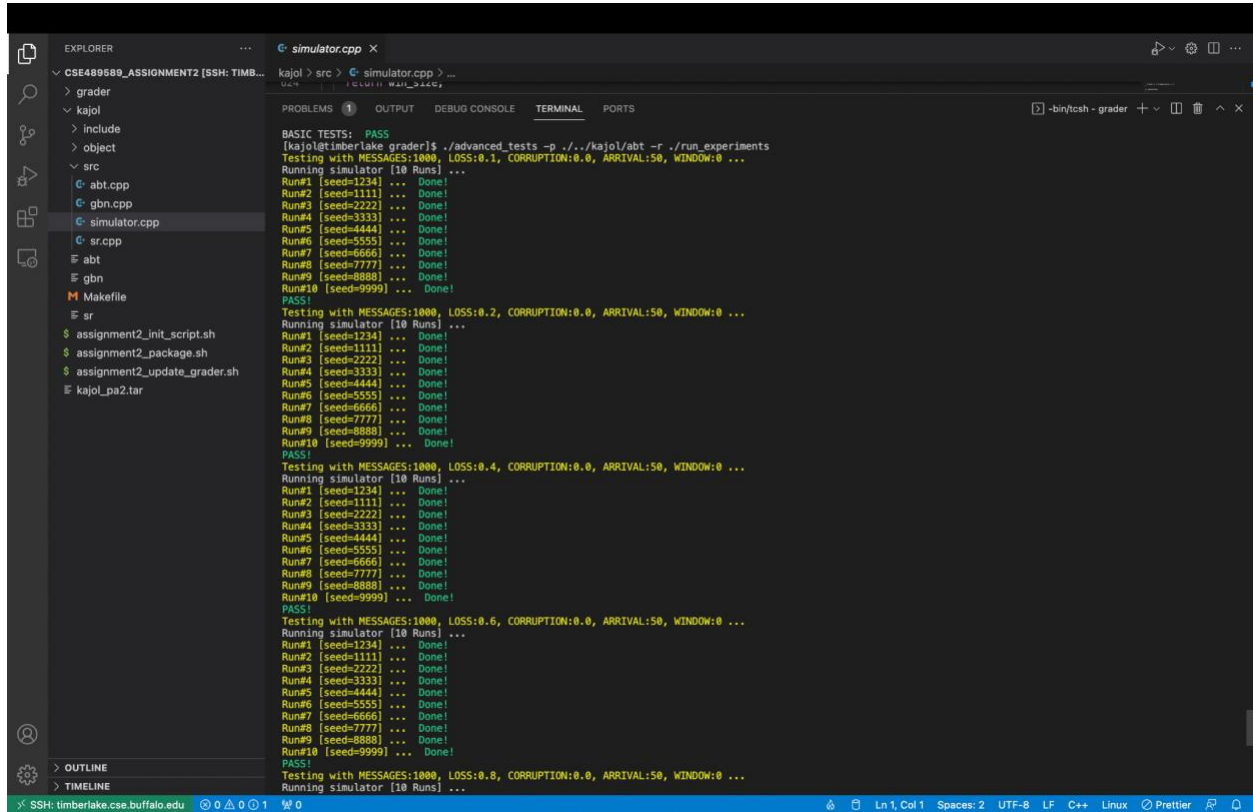
[18.0] SR

```
PASS!
ADVANCED TESTS: PASS
[kajol@timberlake grader]$ ./basic_tests -p ../kajol/sr -r ./run_experiments
Testing with MESSAGES:20, LOSS:0.1, CORRUPTION:0.0, ARRIVAL:50, WINDOW:50 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.4, CORRUPTION:0.0, ARRIVAL:50, WINDOW:50 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.8, CORRUPTION:0.0, ARRIVAL:50, WINDOW:50 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.1, ARRIVAL:50, WINDOW:50 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.4, ARRIVAL:50, WINDOW:50 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
```

```
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.8, CORRUPTION:0.0, ARRIVAL:50, WINDOW:50 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.1, ARRIVAL:50, WINDOW:50 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:20, LOSS:0.0, CORRUPTION:0.4, ARRIVAL:50, WINDOW:50 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
BASIC TESTS: PASS
[kajol@timberlake grader]$
```

5 - ADVANCED Tests

[5.0] ABT



```
EXPLORER
CSE489589_ASSIGNMENT2 [SSH: TIMB...
  > grader
  > kajol
  > include
  > object
  > src
    C abt.cpp
    C gbn.cpp
    C simulator.cpp
    C sr.cpp
    F abt
    F gbn
    M Makefile
    F sr
  $ assignment2_init_script.sh
  $ assignment2_package.sh
  $ assignment2_update_grader.sh
  F kajol_pa2.tar

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS
[SSH: TIMB...] -bin/tcsh - grader + - - - - -
BASIC TESTS: PASS
[kajol@timberlake grader]$ ./advanced_tests -p ../../kajol/abt -r ./run_experiments
Testing with MESSAGES:1000, LOSS:0.1, CORRUPTION:0.0, ARRIVAL:50, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.2, CORRUPTION:0.0, ARRIVAL:50, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.4, CORRUPTION:0.0, ARRIVAL:50, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.6, CORRUPTION:0.0, ARRIVAL:50, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.8, CORRUPTION:0.0, ARRIVAL:50, WINDOW:0 ...
Running simulator [10 Runs] ...
```


EXPLORER... simulator.cpp X

CSE489S89_ASSIGNMENT2 [SSH: TIMB... kajol > src > simulator.cpp > ...

grader
kajol
include
object
src
abt.cpp
gbn.cpp
simulator.cpp
sr.cpp
abt
gbn
Makefile
sr
\$ assignment2_init_script.sh
\$ assignment2_package.sh
\$ assignment2_update_grader.sh
E kajol_pa2.tar

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS

-bin/tcsh - grader + + + + +

PASS1
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.0, ARRIVAL:50, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS1
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.1, ARRIVAL:50, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS1
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.2, ARRIVAL:50, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS1
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.4, ARRIVAL:50, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS1
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.6, ARRIVAL:50, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!

SSH: timberlake.cse.buffalo.edu 0 0 0 1 W 0 Ln 1, Col 1 Spaces: 2 UTF-8 LF C++ Linux Prettier

EXPLORER... simulator.cpp X

CSE489S89_ASSIGNMENT2 [SSH: TIMB... kajol > src > simulator.cpp > ...

grader
kajol
include
object
src
abt.cpp
gbn.cpp
simulator.cpp
sr.cpp
abt
gbn
Makefile
sr
\$ assignment2_init_script.sh
\$ assignment2_package.sh
\$ assignment2_update_grader.sh
E kajol_pa2.tar

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS

-bin/tcsh - grader + + + + +

Run#10 [seed=9999] ... Done!
PASS1
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.2, ARRIVAL:50, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS1
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.4, ARRIVAL:50, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS1
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.6, ARRIVAL:50, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS1
Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.8, ARRIVAL:50, WINDOW:0 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS1
ADVANCED TESTS: PASS
[kajol@timberlake.grader]\$

SSH: timberlake.cse.buffalo.edu 0 0 0 1 W 0 Ln 1, Col 1 Spaces: 2 UTF-8 LF C++ Linux Prettier

[10.0] GBN

```
simulator.cpp
PASS!
ADVANCED TESTS: PASS
[kajol@timberlake grader]$ ./advanced_tests -p ../../kajol/gbn -r ./run_experiments
Testing with MESSAGES:1000, LOSS:0.1, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.2, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.4, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.6, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.8, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
```

EXPLORER

CSE489S89_ASSIGNMENT2 [SSH: TIMB...

grader

kajol

include

object

src

abt.cpp

gbn.cpp

simulator.cpp

sr.cpp

abt

gbn

Makefile

sr

assignment2_init_script.sh

assignment2_package.sh

assignment2_update_grader.sh

kajol_pa2.tar

OUTLINE

TIMELINE

simulator.cpp

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.1, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.2, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.4, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.6, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

SSH: timberlake.cse.buffalo.edu

0 0 0 1

W 0

Ln 1, Col 1

Spaces: 2

UTF-8

LF

C++

Linux

Prettier

EXPLORER

CSE489S89_ASSIGNMENT2 [SSH: TIMB...

grader

kajol

include

object

src

abt.cpp

gbn.cpp

simulator.cpp

sr.cpp

abt

gbn

Makefile

sr

assignment2_init_script.sh

assignment2_package.sh

assignment2_update_grader.sh

kajol_pa2.tar

OUTLINE

TIMELINE

simulator.cpp

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.2, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.4, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.6, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.8, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS!

ADVANCED TESTS: PASS

[kajol@timberlake grader]\$

SSH: timberlake.cse.buffalo.edu

0 0 0 1

W 0

Ln 1, Col 1

Spaces: 2

UTF-8

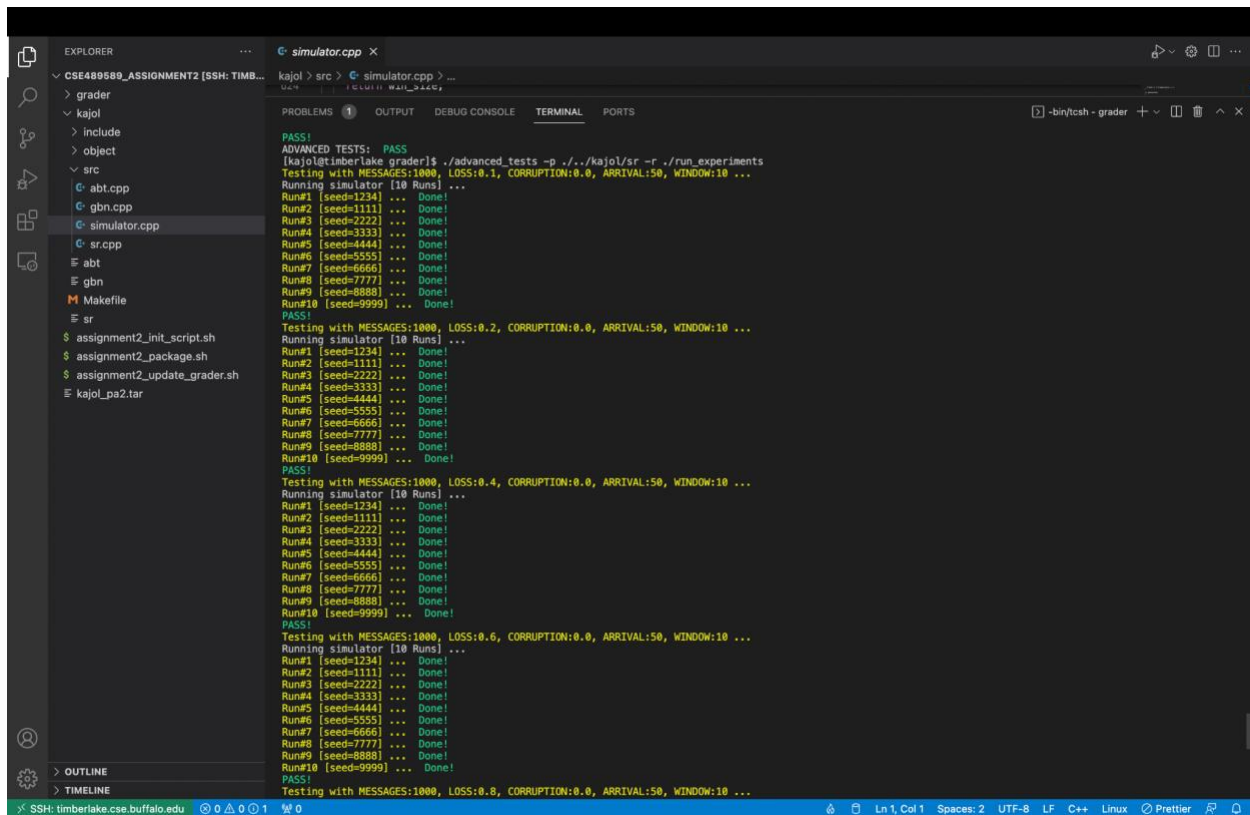
LF

C++

Linux

Prettier

[20.0] SR



```
EXPLORER
CSE489S89_ASSIGNMENT2 [SSH: TIMB...
  > grader
  > kajol
  > include
  > object
  > src
    C abt.cpp
    C gbn.cpp
    C simulator.cpp
    C sr.cpp
  E abt
  E gbn
  M Makefile
  E sr
$ assignment2_init_script.sh
$ assignment2_package.sh
$ assignment2_update_grader.sh
E kajol_pa2.tar

simulator.cpp
PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS
- bin/tcsh - grader + - - - - X

PASS!
ADVANCED TESTS: PASS
[kajol@timberlake grader]$ ./advanced_tests -p ../../kajol/sr -r ./run_experiments
Testing with MESSAGES:1000, LOSS:0.1, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.2, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.4, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.6, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
Testing with MESSAGES:1000, LOSS:0.8, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...
Running simulator [10 Runs] ...
Run#1 [seed=1234] ... Done!
Run#2 [seed=1111] ... Done!
Run#3 [seed=2222] ... Done!
Run#4 [seed=3333] ... Done!
Run#5 [seed=4444] ... Done!
Run#6 [seed=5555] ... Done!
Run#7 [seed=6666] ... Done!
Run#8 [seed=7777] ... Done!
Run#9 [seed=8888] ... Done!
Run#10 [seed=9999] ... Done!
PASS!
```

EXPLORER

... simulator.cpp X

CSE489S89_ASSIGNMENT2 [SSH: TIMB...

grader

kajol

include

object

src

abt.cpp

gbn.cpp

simulator.cpp

sr.cpp

abt

gbn

Makefile

sr

assignment2_init_script.sh

assignment2_package.sh

assignment2_update_grader.sh

kajol_pa2.tar

OUTLINE

TIMELINE

SSH: timberlake.cse.buffalo.edu 0 0 0 1 W 0

PROBLEMS 1

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

-bin/tcsh - grader + + + + +

PASS1

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.0, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS1

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.1, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS1

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.2, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS1

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.4, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS1

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.6, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

EXPLORER

... simulator.cpp X

CSE489S89_ASSIGNMENT2 [SSH: TIMB...

grader

kajol

include

object

src

abt.cpp

gbn.cpp

simulator.cpp

sr.cpp

abt

gbn

Makefile

sr

assignment2_init_script.sh

assignment2_package.sh

assignment2_update_grader.sh

kajol_pa2.tar

OUTLINE

TIMELINE

SSH: timberlake.cse.buffalo.edu 0 0 0 1 W 0

PROBLEMS 1

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

-bin/tcsh - grader + + + + +

Run#10 [seed=9999] ... Done!

PASS1

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.2, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS1

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.4, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS1

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.6, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS1

Testing with MESSAGES:1000, LOSS:0.0, CORRUPTION:0.8, ARRIVAL:50, WINDOW:10 ...

Running simulator [10 Runs] ...

Run#1 [seed=1234] ... Done!

Run#2 [seed=1111] ... Done!

Run#3 [seed=2222] ... Done!

Run#4 [seed=3333] ... Done!

Run#5 [seed=4444] ... Done!

Run#6 [seed=5555] ... Done!

Run#7 [seed=6666] ... Done!

Run#8 [seed=7777] ... Done!

Run#9 [seed=8888] ... Done!

Run#10 [seed=9999] ... Done!

PASS1

ADVANCED TESTS: PASS

[kajol@timberlake grader]\$

6 - ANALYSIS & REPORT [15.0]

Window size 10

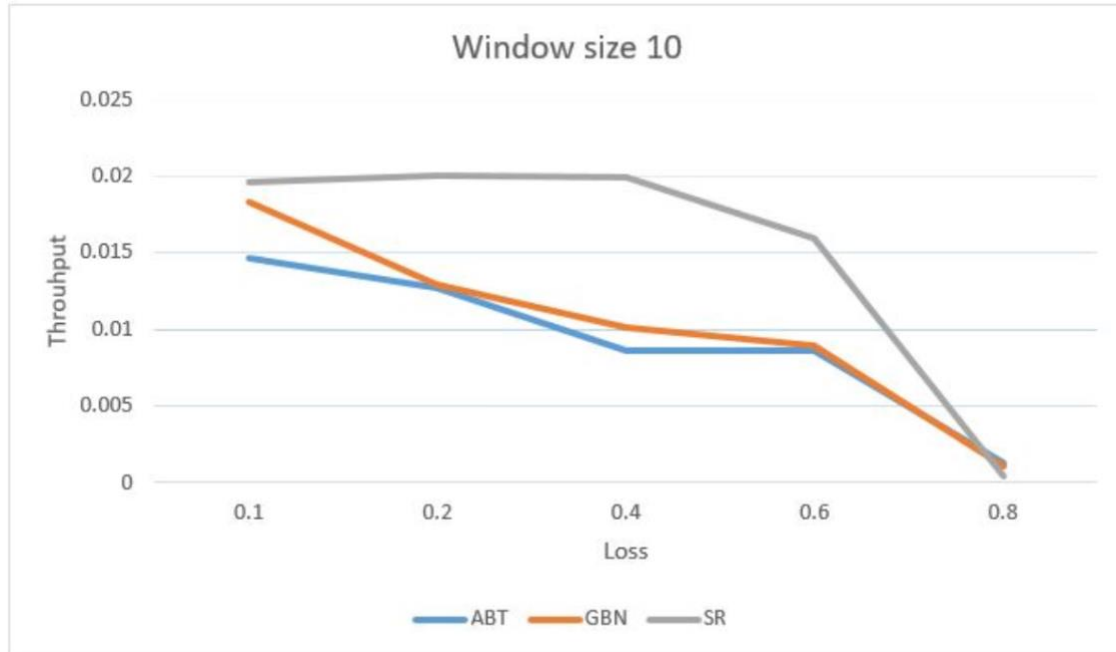


Figure 1: Throughput/loss for window size 10

Observation and Analysis:

In the graph above, we can see that SR throughput is higher than GBN and ABT. As loss increases, the number of transmissions increases in GBN, which is why we see a close graph line between ABT and GBN, whereas SR transmission only takes for unacknowledged packets of window, so we get better performance in SR, but as loss increases, it basically degrades to stop and wait, so we merge all the graph lines at 0.8 loss.

Window size – 50

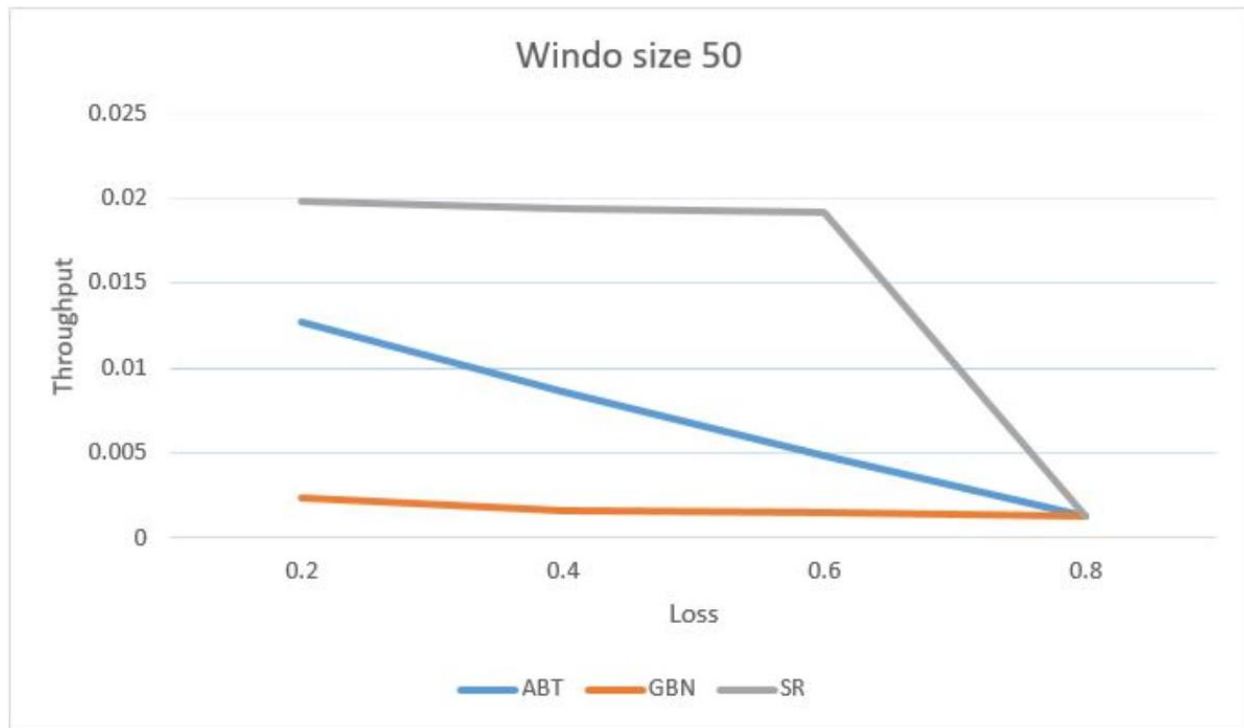


Figure 2: Throughput/loss for window size 50

Observation and analysis:

Now here we can see that GBN throughput decreases a lot as we increase the loss probability as window size is 50 we have to send lot of packet to B which decreases the throughput. In case of SR its performance remains the same.

Loss Probability - 0.2

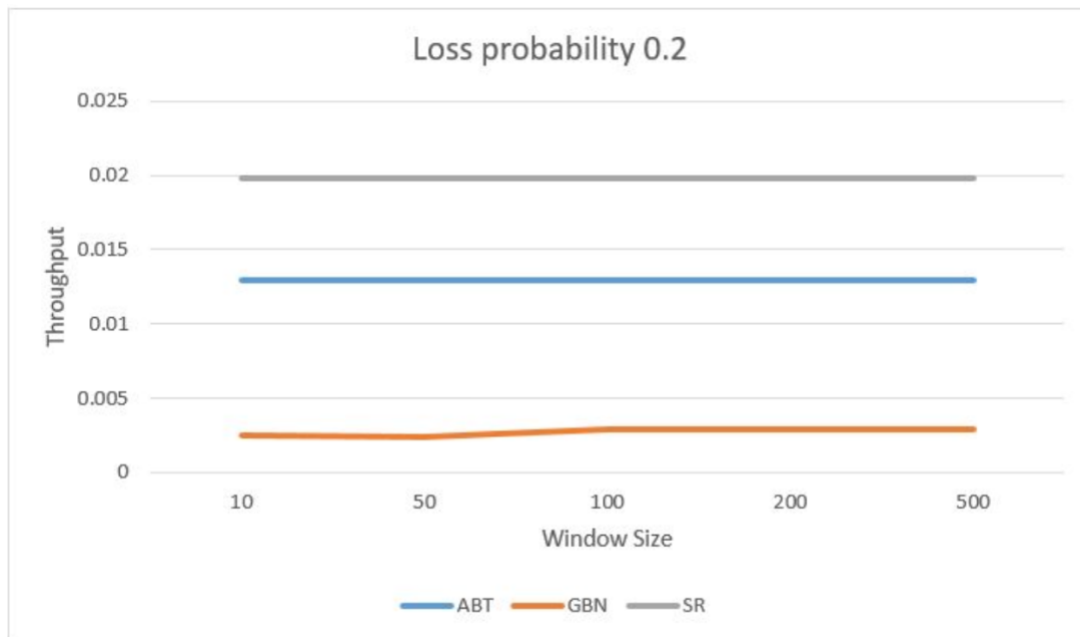


Figure 3: Throughput/window size loss probability 0.2

Observation and analysis:

Here we can see at loss probability 0.2 we have same throughput for variation of window sizes; we can conclude that the window sizes at low rate of loss probability window size does not affect the throughput.

Loss Probability - 0.5

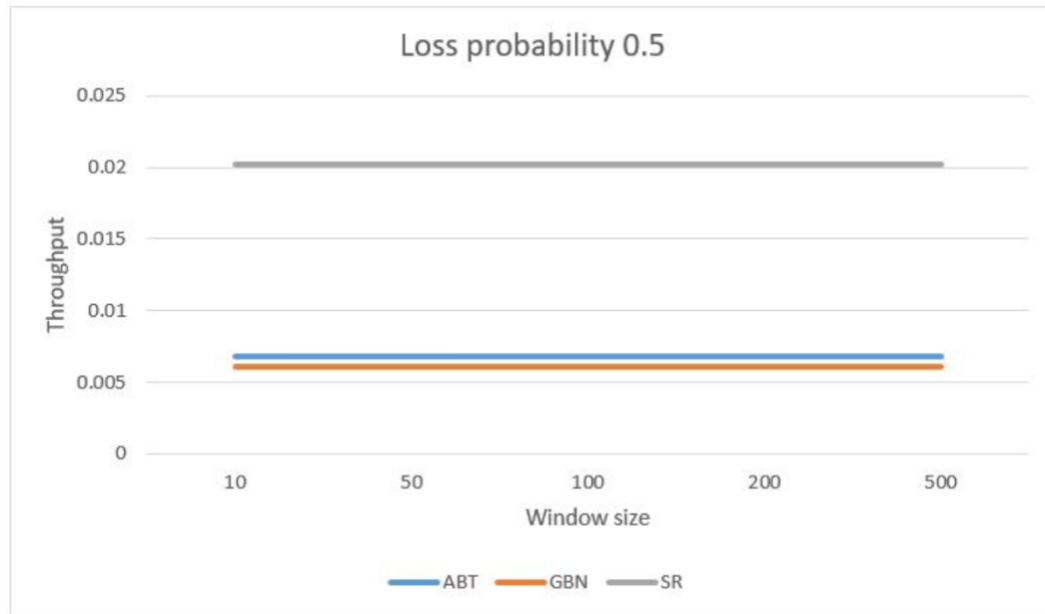


Figure 4: Throughput/window size loss probability 0.5

Observation and analysis:

Here we can see at loss probability 0.5 we have same throughput for variation of window sizes, we can conclude that the window sizes. Though we can see as due to large number of retransmission throughput of the GBN is decreased.

Loss Probability - 0.8

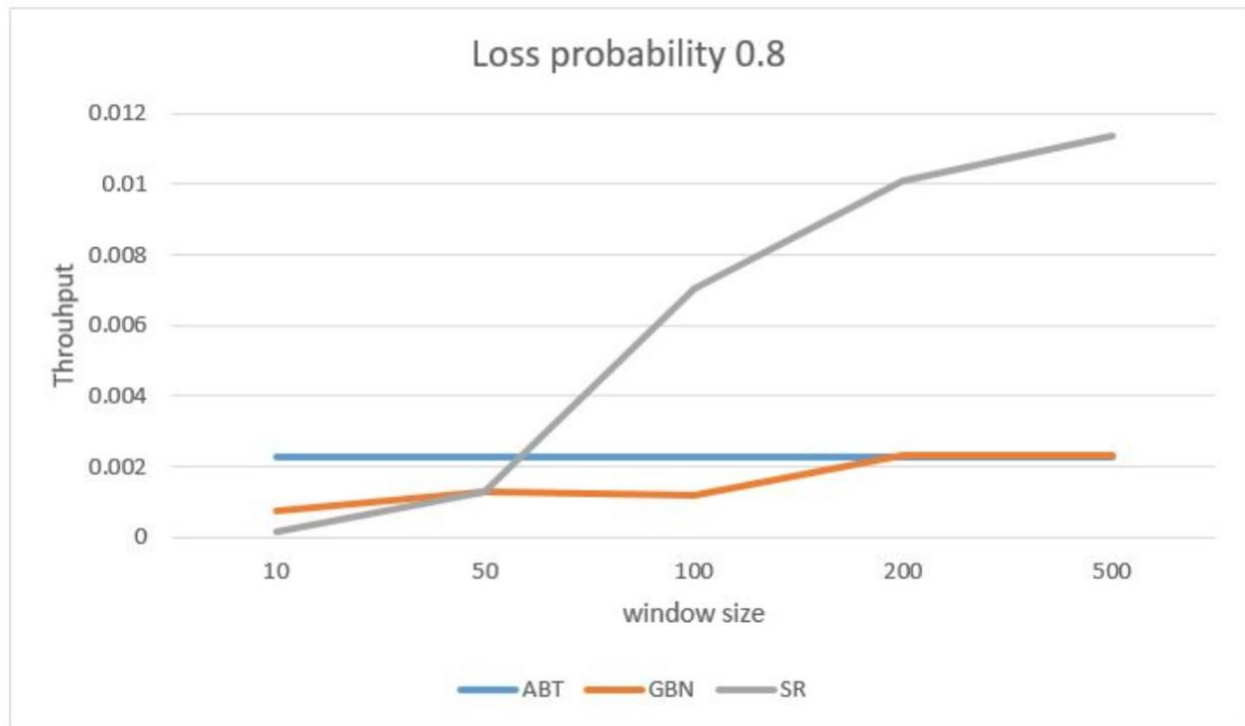


Figure 5: Throughput/window size loss probability 0.8

Observation and analysis:

Here we can see at loss probability 0.8 GBN performance decreased dramatically as we are retransmitting same packet multiple times. Though SR initially due to high probability gives low throughput but catches on as we increase the window size, here ADT is not affected due to stop and wait.

REFERENCES:

<https://geek-university.com/reliable-transport-protocol-rtp/>

<https://networkustad.com/2020/01/02/reliable-transport-protocol-rtp/>

<https://learn.saylor.org/mod/page/view.php?id=27482>

