

Name: Phoenix Bouma

UCID: 30139717

```
5 import random
6 import SWRDT
7
8
9 ## Provides an abstraction for the network layer
10 class NetworkLayer:
11     # configuration parameters
12     prob_pkt_loss = 0
13     prob_byte_corr = 0
14     prob_pkt_reorder = 0
15
16     # class variables
17     sock = None
18     conn = None
19     buffer_S = ""
20     lock = threading.Lock()
21     collect_thread = None
22     stop = None
23     socket_timeout = 0.1
24     reorder_msg_S = None
```

C:\Users\phoen\Year 4\ENSF462\Lab4\python Receiver.py 5678
Network: role is receiver
Receive message 1. Send ACK 1
Receive message 2. Send ACK 2
Receive message 3. Send ACK 3
Receive message 4. Send ACK 4
Receive message 5. Send ACK 5
Receive message 6. Send ACK 6
Receive message 7. Send ACK 7
Receive message 8. Send ACK 8
Receive message 9. Send ACK 9
Receive message 10. Send ACK 10
[]

C:\Users\phoen\Year 4\ENSF462\Lab4\python Sender.py localhost 5678
Network: role is sender
Send Message: sending message - 1
Send message 1
Receive ACK 1. Message successfully sent!
Send Message: sending message - 2
Send message 2
Receive ACK 2. Message successfully sent!
Send Message: sending message - 3
Send message 3
Receive ACK 3. Message successfully sent!
Send Message: sending message - 4
Send message 4
Receive ACK 4. Message successfully sent!
Send Message: sending message - 5
Send message 5
Receive ACK 5. Message successfully sent!
Send Message: sending message - 6
Send message 6
Receive ACK 6. Message successfully sent!
Send Message: sending message - 7
Send message 7
Receive ACK 7. Message successfully sent!
Send Message: sending message - 8
Send message 8
Receive ACK 8. Message successfully sent!
Send Message: sending message - 9
Send message 9
Receive ACK 9. Message successfully sent!
Send Message: sending message - 10
Send message 10
Receive ACK 10. Message successfully sent!
C:\Users\phoen\Year 4\ENSF462\Lab4\

← →

Lab4

🔍

SWRDT.py MNetwork.py M XReceiver.py MSender.py M

Network.py > NetworkLayer

```
5 import random
6 import SWRDT
7
8
9 ## Provides an abstraction for the network layer
10 class NetworkLayer:
11     # configuration parameters
12     prob_pkt_loss = 0.1
13     prob_byte_corr = 0
14     prob_pkt_reorder = 0
15
16     # class variables
17     sock = None
18     conn = None
19     buffer_S = ""
20     lock = threading.Lock()
21     collect_thread = None
22     stop = None
23     socket_timeout = 0.1
24     reorder_msg_S = None
```

PROBLEMSOUTPUTDEBUG CONSOLETERMINALPORTSSQL CONSOLECOMMENTS

C:\Users\phoen\Year 4\ENSF462\Lab4>python Receiver.py 5678
Network: role is receiver
Receive message 1. Send ACK 1
Receive message 2. Send ACK 2
Receive message 3. Send ACK 3
Receive message 4. Send ACK 4
Receive message 5. Send ACK 5
Receive message 6. Send ACK 6
Receive message 7. Send ACK 7
Receive message 8. Send ACK 8
Receive message 9. Send ACK 9
Receive message 10. Send ACK 10
[]

C:\Users\phoen\Year 4\ENSF462\Lab4>python Sender.py localhost 5678
Network: role is sender
Sent Message: sending message - 1
Send message 1
Receive ACK 1. Message successfully sent!
Sent Message: sending message - 2
Send message 2
Receive ACK 2. Message successfully sent!
Sent Message: sending message - 3
Send message 3
Receive ACK 3. Message successfully sent!
Sent Message: sending message - 4
Send message 4
Receive ACK 4. Message successfully sent!
Sent Message: sending message - 5
Send message 5
Timeout! Resend message 5
Send message 5
Receive ACK 5. Message successfully sent!
Sent Message: sending message - 6
Send message 6
Receive ACK 6. Message successfully sent!
Sent Message: sending message - 7
Send message 7
Receive ACK 7. Message successfully sent!
Sent Message: sending message - 8
Send message 8
Receive ACK 8. Message successfully sent!
Sent Message: sending message - 9
Send message 9
Receive ACK 9. Message successfully sent!
Sent Message: sending message - 10
Send message 10
Receive ACK 10. Message successfully sent!

C:\Users\phoen\Year 4\ENSF462\Lab4>

← →

Lab4

⊞

SWRDT.py M

Network.py M X

Receiver.py M

Sender.py M

Network.py

5 import random

6 import SWRDT

7

8

9 ## Provides an abstraction for the network layer

10 class NetworkLayer:

11 # configuration parameters

12 prob_pkt_loss = 0

13 prob_byte_corr = 0.1

14 prob_pkt_reorder = 0

15

16 # class variables

17 sock = None

18 conn = None

19 buffer_S = ""

20 lock = threading.Lock()

21 collect_thread = None

22 stop = None

23 socket_timeout = 0.1

24 reorder_msg_S = None

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

SQL CONSOLE

COMMENTS

C:\Users\phoen\Year 4\ENSF462\Lab4>python Receiver.py 5678

Network: role is receiver

Receive message 1. Send ACK 1

Receive message 2. Send ACK 2

Receive message 3. Send ACK 3

Receive message 4. Send ACK 4

Receive message 5. Send ACK 5

Receive message 6. Send ACK 6

Receive message 7. Send ACK 7

Receive message 8. Send ACK 8

Receive message 9. Send ACK 9

Receive message 10. Send ACK 10

C:\Users\phoen\Year 4\ENSF462\Lab4>python Receiver.py 5678

Network: role is receiver

Receive message 1. Send ACK 1

Receive message 2. Send ACK 2

Receive message 3. Send ACK 3

Receive message 4. Send ACK 4

Receive message 5. Send ACK 5

Receive message 6. Send ACK 6

Receive message 7. Send ACK 7

Receive message 8. Send ACK 8

Received duplicate message 8. Send ACK 8

Receive message 9. Send ACK 9

Receive message 10. Send ACK 10

C:\Users\phoen\Year 4\ENSF462\Lab4>python Sender.py localhost 5678

Network: role is sender

Sent Message: sending message - 1

Send message 1

Receive ACK 1. Message successfully sent!

Sent Message: sending message - 2

Send message 2

Receive ACK 2. Message successfully sent!

Sent Message: sending message - 3

Send message 3

Receive ACK 3. Message successfully sent!

Sent Message: sending message - 4

Send message 4

Receive ACK 4. Message successfully sent!

Sent Message: sending message - 5

Send message 5

Receive ACK 5. Message successfully sent!

Sent Message: sending message - 6

Send message 6

Receive ACK 6. Message successfully sent!

Sent Message: sending message - 7

Send message 7

Receive ACK 7. Message successfully sent!

Sent Message: sending message - 8

Send message 8

Corruption detected in ACK. Resend message 8

Send message 8

Receive ACK 8. Message successfully sent!

Sent Message: sending message - 9

Send message 9

Receive ACK 9. Message successfully sent!

Sent Message: sending message - 10

Send message 10

Receive ACK 10. Message successfully sent!

C:\Users\phoen\Year 4\ENSF462\Lab4>

SWRDT.py MNetwork.py M XReceiver.py MSender.py M

Network.py > NetworkLayer

```
5 import random
6 import SWRDT
7
8
9 ## Provides an abstraction for the network layer
10 class NetworkLayer:
11     # configuration parameters
12     prob_pkt_loss = 0
13     prob_byte_corr = 0
14     prob_pkt_reorder = 0.1
15
16     # class variables
17     sock = None
18     conn = None
19     buffer_S = ""
20     lock = threading.Lock()
21     collect_thread = None
22     stop = None
23     socket_timeout = 0.1
24     reorder_msc_S = None
```

PROBLEMSOUTPUTDEBUG CONSOLETERMINALPORTSSQL CONSOLECOMMENTS

C:\Users\phoen\Year 4\ENSF462\Lab4>python Receiver.py 5678
Network: role is receiver
Receive message 1. Send ACK 1
Receive message 2. Send ACK 2
Receive message 3. Send ACK 3
Receive message 4. Send ACK 4
Receive message 5. Send ACK 5
Receive message 6. Send ACK 6
Receive message 7. Send ACK 7
Receive message 8. Send ACK 8
Receive message 9. Send ACK 9
Received duplicate message 9. Send ACK 9
Received duplicate message 9. Send ACK 9
Receive message 10. Send ACK 10

C:\Users\phoen\Year 4\ENSF462\Lab4>python Sender.py localhost 5678
Network: role is sender
Sent Message: sending message - 1
Send message 1
Receive ACK 1. Message successfully sent!
Sent Message: sending message - 2
Send message 2
Receive ACK 2. Message successfully sent!
Sent Message: sending message - 3
Send message 3
Receive ACK 3. Message successfully sent!
Sent Message: sending message - 4
Send message 4
Receive ACK 4. Message successfully sent!
Sent Message: sending message - 5
Send message 5
Receive ACK 5. Message successfully sent!
Sent Message: sending message - 6
Send message 6
Receive ACK 6. Message successfully sent!
Sent Message: sending message - 7
Send message 7
Receive ACK 7. Message successfully sent!
Sent Message: sending message - 8
Send message 8
Receive ACK 8. Message successfully sent!
Sent Message: sending message - 9
Send message 9
Timeout! Resend message 9
Send message 9
Corruption detected in ACK. Resend message 9
Send message 9
Receive ACK 9. Message successfully sent!
Sent Message: sending message - 10
Send message 10
Receive ACK 10. Message successfully sent!

C:\Users\phoen\Year 4\ENSF462\Lab4>