

Sequence Number: 16
ACK Number: 0
Checksum: 776
Message: Message3

SENDER WINDOW

ACKED SENT IN WINDOW OUTSIDE OF WINDOW SEND BASE



Sending packet

Packet:
Sequence Number: 16
ACK Number: 0
Checksum: 776
Message: Message3

Packet seq:16 ack: 0 SENT
TIMER: ON
SEND BASE: 0

SENDER WINDOW

ACKED SENT IN WINDOW OUTSIDE OF WINDOW SEND BASE



TIME: 10

Created packet

Packet:
Sequence Number: 24
ACK Number: 0
Checksum: 785
Message: Message4

SENDER WINDOW

ACKED SENT IN WINDOW OUTSIDE OF WINDOW SEND BASE



Sending packet

Packet:
Sequence Number: 24
ACK Number: 0
Checksum: 785
Message: Message4

Packet seq:24 ack: 0 CORRUPTED
CORRUPTING

Packet seq:24 ack: 0 SENT
TIMER: ON
SEND BASE: 0

SENDER WINDOW

ACKED SENT IN WINDOW OUTSIDE OF WINDOW SEND BASE



Created packet

Packet:
Sequence Number: 32

ACK Number: 0
Checksum: 794
Message: Message5

SENDER WINDOW



Sending packet

Packet:
Sequence Number: 32
ACK Number: 0
Checksum: 794
Message: Message5

Packet seq:32 ack: 0 CORRUPTED
CORRUPTING

Packet seq:32 ack: 0 SENT
TIMER: ON
SEND BASE: 0

SENDER WINDOW



TIME: 12

Created packet

Packet:
Sequence Number: 40
ACK Number: 0
Checksum: 803
Message: Message6

SENDER WINDOW



Sending packet

Packet:
Sequence Number: 40
ACK Number: 0
Checksum: 803
Message: Message6

Packet seq:40 ack: 0 LOST
TIMER: ON
SEND BASE: 0

SENDER WINDOW



TIME: 15

TIME: 16

Received packet

Packet:
Sequence Number: 0
ACK Number: 0
Checksum: 758
Message: Message1

STATUS: GOOD

Sending ACK

Packet:
Sequence Number: 0
ACK Number: 8
Checksum: 8
Message:

Packet seq:0 ack: 8 SENT

TIME: 17

Received packet

Packet:
Sequence Number: 8
ACK Number: 0
Checksum: 767
Message: Message2

STATUS: GOOD

Sending ACK

Packet:
Sequence Number: 0
ACK Number: 16
Checksum: 16
Message:

Packet seq:0 ack: 16 SENT

TIME: 18

Received packet

Packet:
Sequence Number: 16
ACK Number: 0
Checksum: 776
Message: Message3

STATUS: GOOD

Sending ACK

Packet:
Sequence Number: 0
ACK Number: 24
Checksum: 24
Message:

Packet seq:0 ack: 24 SENT

TIME: 23

Received packet

Packet:
Sequence Number: 24
ACK Number: 0
Checksum: 785
Message: Message4

```
| STATUS: CORRUPT |
|-----|
|--- Sending ACK ---|
|Packet:|
|  Sequence Number: 0|
|  ACK Number: 24|
|  Checksum: 24|
|  Message:|
|-----|
| Packet seq:0 ack: 24 SENT|
|-----|
| TIME: 24|
|-----|
|--- Received packet ---|
|Packet:|
|  Sequence Number: 32|
|  ACK Number: 0|
|  Checksum: 794|
|  Message: Message5|
|-----|
| STATUS: CORRUPT|
|-----|
|--- Sending ACK ---|
|Packet:|
|  Sequence Number: 0|
|  ACK Number: 24|
|  Checksum: 24|
|  Message:|
|-----|
| Packet seq:0 ack: 24 SENT|
|-----|
| TIME: 25|
|-----|
|--- Drew packet from receiver Transport Layer to Application Layer ---|
|-----|
| TIME: 28|
|-----|
|--- Received ACK ---|
|Packet:|
|  Sequence Number: 0|
|  ACK Number: 8|
|  Checksum: 8|
|  Message:|
|-----|
|-----|
| TIMER: STARTING|
|-----|
|-----|
| TIME: 29|
|-----|
|--- Received ACK ---|
|Packet:|
|  Sequence Number: 0|
|  ACK Number: 16|
|  Checksum: 16|
|  Message:|
|-----|
|-----|
| TIMER: STARTING|
|-----|
|-----|
| TIME: 30|
|-----|
```

```
| Packet:
|   Sequence Number:      0
|   ACK Number:           24
|   Checksum:             24
|   Message:
```

TIMER: STARTING

TIME: 31

```
| Packet:
|   Sequence Number:      0
|   ACK Number:          24
|   Checksum:             24
|   Message:
```

TIME: 33

```
|Packet:
|      Sequence Number:      0
|      ACK Number:          24
|      Checksum:            24
|      Message:
```

FAST RETRANSMIT

```
| Packet:
|   Sequence Number:      24
|   ACK Number:          1
|   Checksum:             786
|   Message:              Message4
```

```

TIMER:          STARTING
SEND BASE:      24

```

----- SENDER WINDOW -----

ACKED SENT IN WINDOW OUTSIDE OF WINDOW SEND BASE

TIME: 37

```
--- Drew packet from receiver Transport Layer to Application Layer ---
```

TIME: 44

--- Drew packet from receiver Transport Layer to Application Layer ---

TIME: 46

--- Received packet ---

Packet:

Sequence Number: 24
ACK Number: 1
Checksum: 786
Message: Message4

STATUS: GOOD

--- Sending ACK ---

Packet:

Sequence Number: 0
ACK Number: 32
Checksum: 32
Message:

Packet seq:0 ack: 32 SENT

TIME: 53

--- Drew packet from receiver Transport Layer to Application Layer ---

TIME: 58

TIME: 59

TIME: 60

--- Received ACK ---

Packet:

Sequence Number: 0
ACK Number: 32
Checksum: 32
Message:

TIMER: STARTING

TIME: 63

TIME: 65

TIME: 75

TIME: 84

TIME: 90

TIMER: EXPIRED / TIME = 90

--- Sending packet ---

Packet:
Sequence Number: 32
ACK Number: 1
Checksum: 795
Message: Message5

Packet seq:32 ack: 1 SENT
TIMER: STARTING
SEND BASE: 32

----- SENDER WINDOW -----

ACKED SENT IN WINDOW OUTSIDE OF WINDOW SEND BASE



TIMER: ON

TIME: 96

TIME: 103

--- Received packet ---

Packet:
Sequence Number: 32
ACK Number: 1
Checksum: 795
Message: Message5

STATUS: GOOD

--- Sending ACK ---

Packet:
Sequence Number: 0
ACK Number: 40
Checksum: 40
Message:

Packet seq:0 ack: 40 SENT

TIME: 106

--- Drew packet from receiver Transport Layer to Application Layer ---

TIME: 115

--- Received ACK ---

Packet:
Sequence Number: 0
ACK Number: 40
Checksum: 40
Message:

TIMER: STARTING

TIME: 120

TIME: 126

TIME: 135

TIME: 145

TIMER: EXPIRED / TIME = 145

--- Sending packet ---

Packet:
Sequence Number: 40
ACK Number: 1
Checksum: 804
Message: Message6

Packet seq:40 ack: 1 SENT
TIMER: STARTING
SEND BASE: 40

----- SENDER WINDOW -----



TIMER: ON

TIME: 147

TIME: 152

--- Received packet ---

Packet:
Sequence Number: 40
ACK Number: 1
Checksum: 804
Message: Message6

STATUS: GOOD

--- Sending ACK ---

Packet:
Sequence Number: 0
ACK Number: 48
Checksum: 48
Message:

Packet seq:0 ack: 48 SENT

TIME: 155

--- Drew packet from receiver Transport Layer to Application Layer ---

TIME: 164

```
--- Received ACK -----
| Packet:
|   Sequence Number:      0
|   ACK Number:          48
|   Checksum:            48
|   Message:
|
-----

----- THE END -----
Wassims-MacBook-Pro:TCP-Simulator wassgha$
```