Computer Network Assignment3
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- How to execute program

  ```
  $ ./receiver [receiver port] [agent ip] [agent port]
  $ ./agent [sender ip] [receiver ip] [sender port] [agent port]
  [receiver port] [loss rate]
  $ ./sender [sender port] [agent ip] [agent port] [file name]
  ```
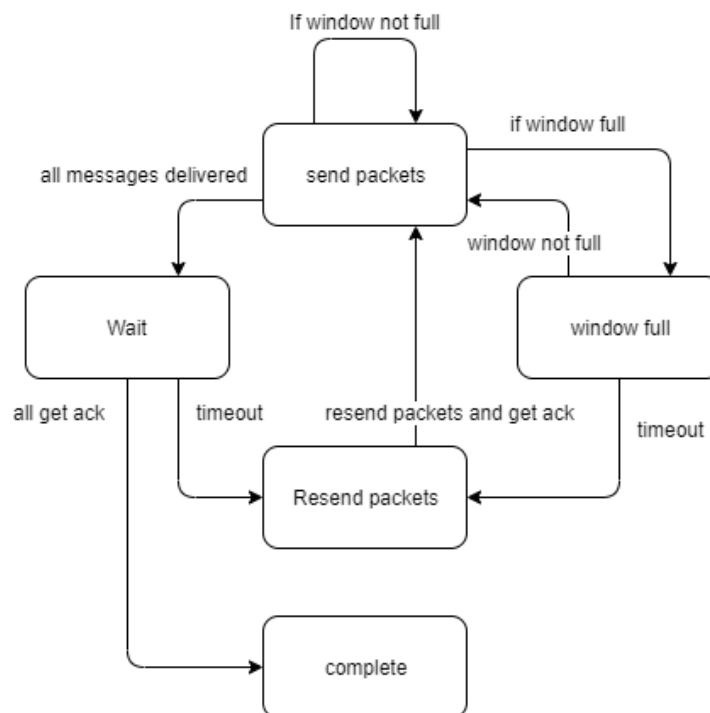
  ```
  Ex. $ ./receiver 8889 127.0.0.1 8888
      $ ./agent local local 8887 8888 8889 0.3
      $ ./sender 8887 127.0.0.1 8888 tmp.mpg
  ```

- Program structure
  - Sender

    - Send packets: separate data into packets and send them
    - Window full: window is full, try to get ack in timeout
    - Resend packets: timeout occurs, resend packet from base
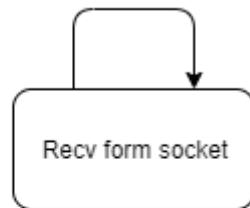   - Wait: wait for all ack correspond to packet just sent out

  - Agent

    ```
    If receive from sender,
        If it's fin forward to receiver.
    ```
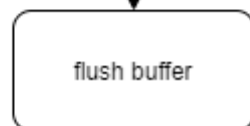
```
        Else decide drop it or not, and forward to receiver.
    If receive from receiver,
        Always forward to sender.
```

- Receiver

If desire length > current buffer data size
&& buffer not full

Recv form socket

desire length <= current buffer data size
|| buffer full

flush buffer

- Recv from socket: receive segments from socket
- Flush buffer: if desire length has reached or segments buffer is full,
  copy all data in segments buffer to a continuous memory buffer.