

UNIVERSITY OF MEMPHIS

COMP 3825 - NETWORKING/INFO ASSURANCE

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Selective Repeat Implementation – How to Install and Execute

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1 What to Install

All code has been written in Python, but it will only run without crashes if Python 3 is used. Thus, you will need to have Python 3 installed.

2 How to Use the Application

You will need two shells open. One will host the server, and the other will host the client.

2.1 `server.py`

First, start the server using the command

```
python3 server.py <port>
```

where “<port>” is whatever port number you would like to use. Make sure it is between 1024 and 60000. The server should print “Listening” to the console. At this point, the server is ready to go.

2.2 `client.py`

Now, start the client using the command

```
python3 client.py localhost <port>
```

where “<port>” must be the same port supplied to `server.py`. The client should print “Press enter to begin transmission.”. At this point, the client is also ready to go.

2.3 Transferring a File

To transfer a file, simply hit enter in the `client.py` console. This will initiate the file transfer, and you should see output similar to the output in the screenshots on the next page.

3 Expected Output

3.1 server.py Before Transmission

```
Ians-MacBook-Pro:selective-repeat-turnin ihanken$ python3 server.py 4041
Listening
```

3.2 client.py Before Transmission

```
Ians-MacBook-Pro:selective-repeat-turnin ihanken$ python3 client.py localhost 4041
Press enter to begin transmission.█
```

3.3 server.py After Transmission

```
Ians-MacBook-Pro:selective-repeat-turnin ihanken$ python3 server.py 4041
Listening
Sent I love to socket program. It is the best type of programming. to the receiver.
```

3.4 client.py After Transmission

```
Ians-MacBook-Pro:selective-repeat-turnin ihanken$ python3 client.py localhost 4041
Press enter to begin transmission.
Requesting data from server...

Raw data: ['I', 'love', 'to', 'socket', 'program.', 'It', 'is', 'the', 'best', 'type', 'of', 'programming.']
Joined data: "I love to socket program. It is the best type of programming."
Ians-MacBook-Pro:selective-repeat-turnin ihanken$ █
```