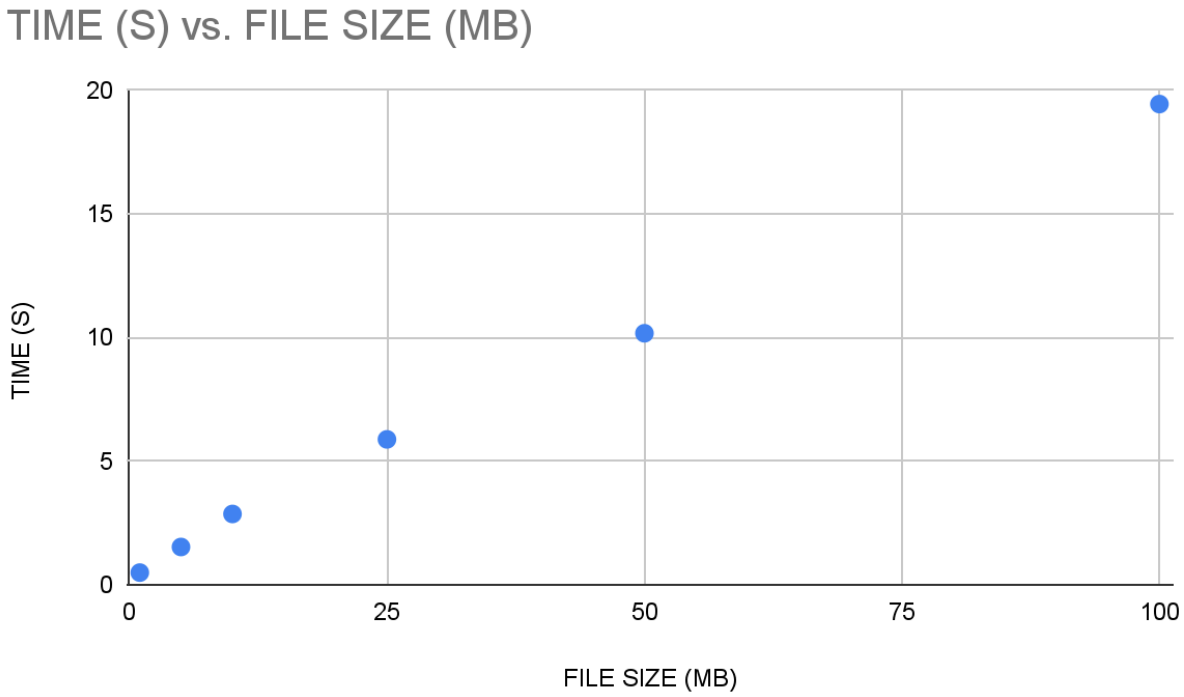
## File Transfer




| FILE SIZE (MB) | TIME (Seconds) |
|---|---|
| 1 | 0.492 |
| 5 | 1.528 |
| 10 | 2.864 |
| 25 | 5.881 |
| 50 | 10.173 |
| 100 | 19.445 |

## Explanation

As the file size increases, the execution time will also increase. The rate at which the execution time increases is linear. This happens because the client transfers the file in chunks instead of all at once. This means that larger files require more chunks, and each chunk needs a request and

response, so doubling the file size roughly doubles the time. For really small files, however, the time it takes is mainly dominated by the time it takes to start the server process and set up the pipes. The main bottleneck when transferring larger files is the buffer capacity. The transfer can only go as big as the buffer capacity is, so with a large file, there will be multiple messages sent back and forth between the server and client. Increasing the buffer capacity can decrease the time it takes to transfer larger files.