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**HW2**

1. Consider a TCP implementation with the Additive Increase (linear) and Multiplicative De-

crease (AIMD) algorithm, ignoring the first phase where the ssthreshold is detected, assume

the window size at the start of the slow start phase is 1 MSS and the ssthreshold at the start

of the first transmission is 8 MSS. Assume that a timeout occurs during the 4th transmission.

Find the congestion window size at the end of the 8th transmission.

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| **Transmission** | **Congestion Window Size (MSS)** | **Threshold Size (MSS)** | **State** |
| 1 | 1 | 8 | Start of slow phase |
| 2 | 2 | 8 | Slow phase |
| 3 | 4 | 8 | Slow phase |
| 4 | 8 | 8/2=4 | Time out |
| 5 | 1 | 4 | Start of slow phase |
| 6 | 2 | 4 | Slow phase |
| 7 | 4 | 4 | Slow phase |
| 8 | 5 | 5 | Congestion Avoidance phase |

After the time out during the 4th transmission, the threshold size is halved and the congestion window size linearly increases by one. At the end of the 8th transmission, the threshold size results in 5, which is the congestion window size.