

Test Case	Number of Producers	Number of Consumers	Turnaround Time (ms)
1	1	1	1013
2	4	1	4021
3	16	1	16058
4	1	2	523
5	4	2	2016
6	16	2	8034
7	1	4	522
8	4	4	1013
9	16	4	4022
10	1	16	523
11	4	16	523
12	16	16	1013

Increasing the number of producers while keeping consumers constant significantly increases the turnaround time, indicating the consumers become a bottleneck. Conversely, increasing consumers while producers are constant drastically reduces the time initially, showing faster processing, but the benefit diminishes once consumers can keep up with production. The best performance occurs when the number of consumers is sufficient to handle the production rate, preventing the buffer from staying full for long periods.