

```
1 console.clear();
2
3 function throttleWithQueue(fn, delay) {
4
5     let queue = [];          // Stores pending function calls
6
7     let isRunning = false; // Indicates if queue is being processed
8
9     // Handles sending messages one by one
10
11     function processQueue() {
12
13         if (queue.length === 0) { // Stop when no messages left
14
15             isRunning = false;
16
17             return;
18         }
19
20         const args = queue.shift(); // Take first message
21
22         fn(...args);                // Execute it
23
24         // Schedule next message after the delay
25
26         setTimeout(processQueue, delay);
27     }
28
29     // Function that user actually calls
30
31     return function (...args) {
32
33         queue.push(args); // Add message to queue
34
35         if (!isRunning) {
36
37             // Start processing if not already
```

```
38
39         isRunning = true;
40
41         processQueue();
42     }
43 };
44 }
45
46 // Example function (sending a chat message)
47
48 const sendChatMessage = (message) => {
49
50     console.log("Sending message:", message, "at", new Date().toLocaleTimeString());
51 };
52
53 // Create throttled version (10s delay between messages)
54
55 const sendMessageWithSlowMode = throttleWithQueue(sendChatMessage, 10000);
56
57 // Send some messages
58
59 sendMessageWithSlowMode("Hello");
60
61 sendMessageWithSlowMode("How are you?");
62
63 sendMessageWithSlowMode("Let's chat!");
```