

Distributed System Lab

Assignment ~~3~~

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CS - A

Q. Simulate the functioning of Lamport's Logical Clock.

```
#include <stdio.h>

int logical_clock_A = 0;
int logical_clock_B = 0;

void eventA() {
    logical_clock_A++;
    printf("Process A: Event A%d Timestamp = %d\n", logical_clock_A, logical_clock_A);
}

void eventB() {
    logical_clock_B++;
    printf("Process B: Event B%d Timestamp = %d\n", logical_clock_B, logical_clock_B);
}

int main() {

    eventA();
    eventB();

    printf("Process A sends a message to Process B\n");

    logical_clock_B = (logical_clock_B > logical_clock_A + 1) ? logical_clock_B : logical_clock_A + 1;
    printf("Process B's Logical Clock = %d\n", logical_clock_B);

    return 0;
}
```

```
Process A: Event A1 Timestamp = 1
Process B: Event B1 Timestamp = 1
Process A sends a message to Process B
Process B's Logical Clock = 2
```