```
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h> // for sleep()
#define N 5 // Number of nodes in the ring
void passToken(int nodes[], int currentHolder) {
  printf("Node %d has the token.\n", currentHolder + 1);
  printf("Node %d is sending data...\n", currentHolder + 1);
  sleep(1); // Simulate data transmission delay
  printf("Node %d has finished sending data.\n", currentHolder + 1);
  printf("Passing token to Node %d...\n\n", (currentHolder + 1) % N + 1);
}
int main() {
  int nodes[N];
  for (int i = 0; i < N; i++) {
    nodes[i] = i + 1; // Node IDs from 1 to N
  }
  printf("Starting Token Ring Network with %d nodes...\n\n", N);
  int currentHolder = 0;
  for (int i = 0; i < 2 * N; i++) { // Run the protocol for 2 full cycles
```

```
passToken(nodes, currentHolder);
  currentHolder = (currentHolder + 1) % N;
}

printf("Token passing completed.\n");
  return 0;
```

## **Output**

Starting Token Ring Network with 5 nodes...

```
Node 1 has the token.
```

Node 1 is sending data...

Node 1 has finished sending data.

Passing token to Node 2...

Node 2 has the token.

Node 2 is sending data...

Node 2 has finished sending data.

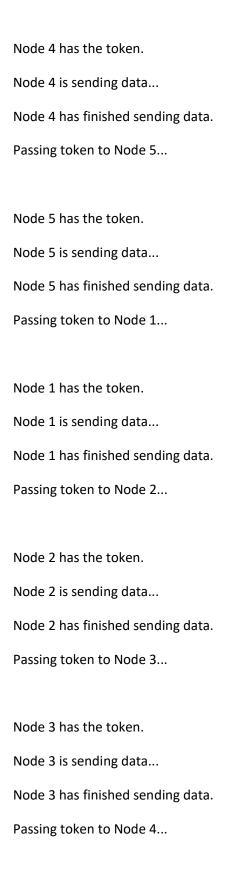
Passing token to Node 3...

Node 3 has the token.

Node 3 is sending data...

Node 3 has finished sending data.

Passing token to Node 4...



Node 4 is sending data
Node 4 has finished sending data.
Passing token to Node 5
Node 5 has the token.
Node 5 is sending data
Node 5 has finished sending data.
Passing token to Node 1
Token passing completed.

Node 4 has the token.