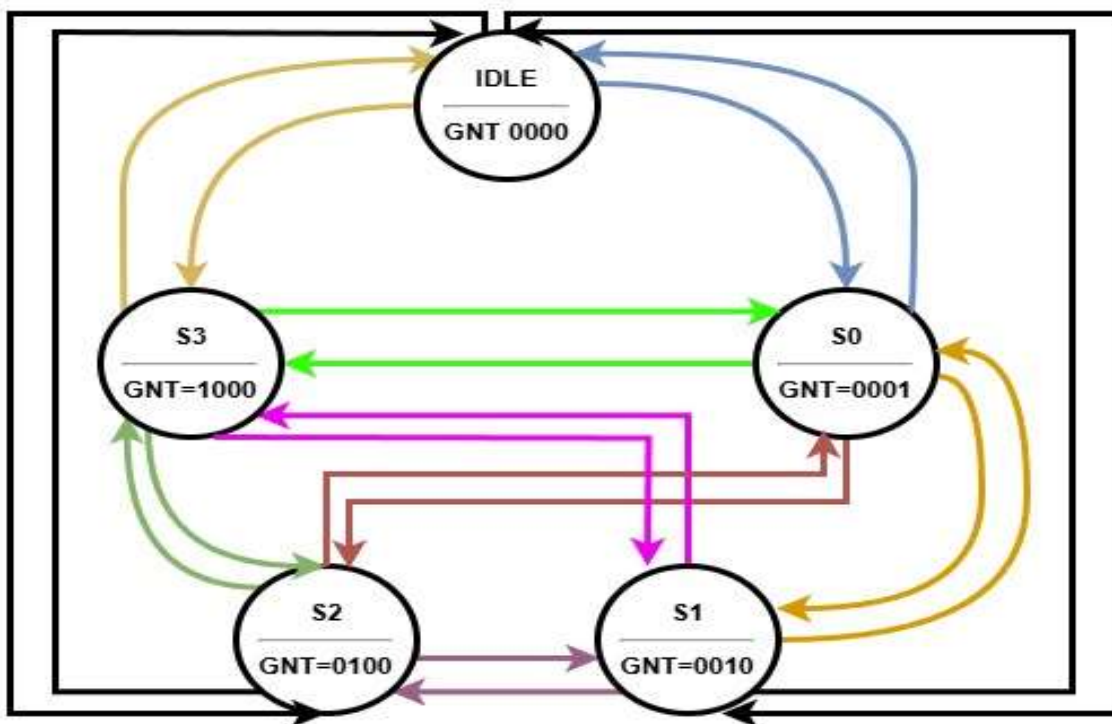


TRUTH TABLE:

The truth table below shows the next state and grant signal based on the current state and active requests.

Current State	Request[3:0]	Next State	Grant[3:0]
000 (Idle)	0001	001	0001
001	0010	010	0010
010	0100	011	0100
011	1000	100	1000
100	0001	001	0001
001	0101	010	0010
010	1010	011	0100
011	0110	010	0010

FSM DESIGN:



- **IDLE:** Achieved everytime when default case or no request.
- **S0:** Achieved everytime when REQ[0] = 1
- **S1:** Achieved everytime when REQ[1] = 1
- **S2:** Achieved everytime when REQ [2] = 1
- **S3:** Achieved everytime when REQ[3] = 1

