

1. LED Pattern Changer with Button Interrupt

- Create multiple LED blinking patterns (e.g., sequential, fading) using 2 LEDs.
- Use a push button to instantly switch between patterns without waiting for the current pattern to finish.

2. Write a VHDL for the following configuration:

Inputs: Data input (Input), Clock input (CLK), optional asynchronous inputs such as Reset (RST) and Set.

Outputs: O (stored data output)

Truth Table for Verification:

RST	SET	CLK Edge	input	O
1	X	X	X	0
0	1	X	X	1
0	0	Rising	0	0
0	0	Rising	1	1