

The following code answers the quiz.

```
void two_edge_detector(bool input_1_signal, bool input_2_signal, bool
&rising_edge) {
#pragma HLS INTERFACE ap_ctrl_none port=return
#pragma HLS INTERFACE ap_none port=input_1_signal
#pragma HLS INTERFACE ap_none port=input_2_signal
#pragma HLS INTERFACE ap_none port=rising_edge

    static bool previous_input_1_signal = 0;
    static bool previous_input_2_signal = 0;

    if ( (previous_input_1_signal == 0 && input_1_signal == 1)
        && (previous_input_2_signal == 0 && input_2_signal == 1) )
    {
        rising_edge = 1;
    } else {
        rising_edge = 0;
    }

    previous_input_1_signal = input_1_signal;
    previous_input_2_signal = input_2_signal;
}
```

This figure shows the timing diagram after RTL/C co-simulation.

