Lab 7 – UART Decoder State Machine
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tx_decoder.v

Inputs:
• clk
• data : 5 bits
Outputs:
• go
• tx_character : 8 bits
Registers:
• delay_count : 4 bits
• current_data : 5 bits

data = 5'b00000 / go = 0

IDLE

current_data != data / go = 0,
delay_count = 0, current_data =
5'b00000

data != 5'b00000 /
current_data = data

current_data = data / go =
0, delay_count = 0

DELAY

TX CHAR TRANSMIT

tx_character = decoded
value of input data

delay_count != 12 / delay_count += 1

- / delay_count = 0, go = 1