AXI Slave WRITE States:

*IDLE:*

Slave waits for AWVALID signal.

If AWVALID is HIGH, Slave makes AWREADY signal HIGH and goes to RUN State.

*RUN:*

IF AWVALID and AWREADY are HIGH then

we make AWREADY low again and make WREADY HIGH

(We want to transfer Data to write in memory)

*WAIT:*

Keep Incrementing countw for every clock and stay in WAIT state

Until if reach the final transfer of burst (countw>=AWLEN or WLAST==1)

 Make WREADY =0 (We no longer are ready to write data as the transaction has been written)

 BVALID is made HIGH (As we will go to write response state)

 Reset countw( For the next Transaction)

 Go to RESP STATE

*RESP:*

If Master is READY for Response (BREADY is HIGH)

BVALID is made LOW(We have to go to other states to continue..)

If Master has Valid Address(AWVALID is HIGH)

 We make AWREADY HIGH and directly go to RUN State

If master had no valid address we go back to the IDLE State ……

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AWVALID: Signal given by master to indicate the address is Valid

AWREADY: Signal given by slave to indicate that it is ready to take the address

WREADY: Signal given by slave to indicate that it is ready to take Data to write in memory

BVALID: Signal given by slave to indicate Valid Write Response is Available

BREADY: Signal given by master to indicate it can accept response info