swinbrune university of technology  COS10004

Assignment 1

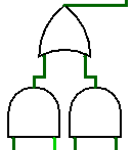
# Description of my Assignment 1 circuit

The logic circuit is basically digital alarm clock that have several function such as let the user set alarm, adjust time.

# Design Outline

To build up an alarm digital clock, I have separated it into 3 small part that have an individual function. The clock part design contains a MOD counter 1, 2 MOD counter 5, 2 MOD counter 9 I order to count the time, when it reach 11:59:59, it will reset the whole clock to 0. Besides, I have 2 LED to indicate the AM and PM time. The Set time function  was also added in this part, in order to adjust the time counter whether it went wrong.

Another part that I have made is set alarm, which allows users to adjust the clock while is still running. When the time of the clock and the alarm is equal, the Led Alarm will turn off. I have made counters for the hour and minute section but not connect to system clock. Then, some shift register was attached to remember the bits that came out from those counters.

For the display part, I’m using a logic that can choose the output from the normal clock and the alarm. The Hex Digit Displays will change to set alarm function when I toggle on set alarm button. Both  and  support for set time and set alarm function.

# Assumption

During this project, I have tried to build up the circuit without any assumption. All the logic in this can be found in the previous lectures.

# Unsolved problem

No problem have been found in this circuit.

Screenshots of working circuit.

