

ECO-GREEN ATM

Our project is The standing ATM machine that when a person approaches the ATM to withdraw cash the ATM a "HELLO" message is displayed and LED is switched on , however if no one approaches the ATM ;no message will be displayed and LED is switched off.

Our code implements this functionality as if the IR sensor detects that person has approached the ATM and is about to withdraw cash and from it.It detects his presence and the ATM displays a message to welcome the person with "Hello" and when the person leaves the ATM machine the IR sensor detects the person has left and the message "Hello" disappear . Also , there is a light sensor that detects light if the light sensor detect light (DAY) the LED above the ATM is switched off and if the light sensor didn't detect light (NIGHT) and the IR sensor detects a person in fronts of the ATM the LED is switched on

The first vhdl file containing ENTITY finalproject

Where the **inputs** of this entity is the output of the **IR sensor and light sensor, clk and reset** and **output** is **LED and screen(7 Segments)** . So, if the reset button is not pushed we check if

the output of the IR sensor is '0' then a person is in front of the ATM so the signal 'inside' is assigned with '1' ,

then we check if the inside signal is assigned to '1' and the light sensor output is '0' (did detect light so, it is day time) so the light is assigned to '0' to switch off the LED and the screen is assigned to '1' to display the message "Hello"

if the inside signal assigned to '1' and the light sensor output is '1' (didn't detect light so , it is night time) so the light is assigned to '1' to switch on the LED and the screen is assigned to '1' to display the message "Hello"

However if the output of the IR sensor is '1' then a person isn't in front of the ATM has left so the signal 'inside' is assigned with '0' and the 'screen' is assigned to '0' and 'light' assigned to '0' ,

if the reset button is pushed then 'inside' is assigned to '0' and light is assigned to '0' and the screen is assigned to '0' (LED is switched off and there is no display of message

The second vhdl file containing ENTITY seven_seg_dec

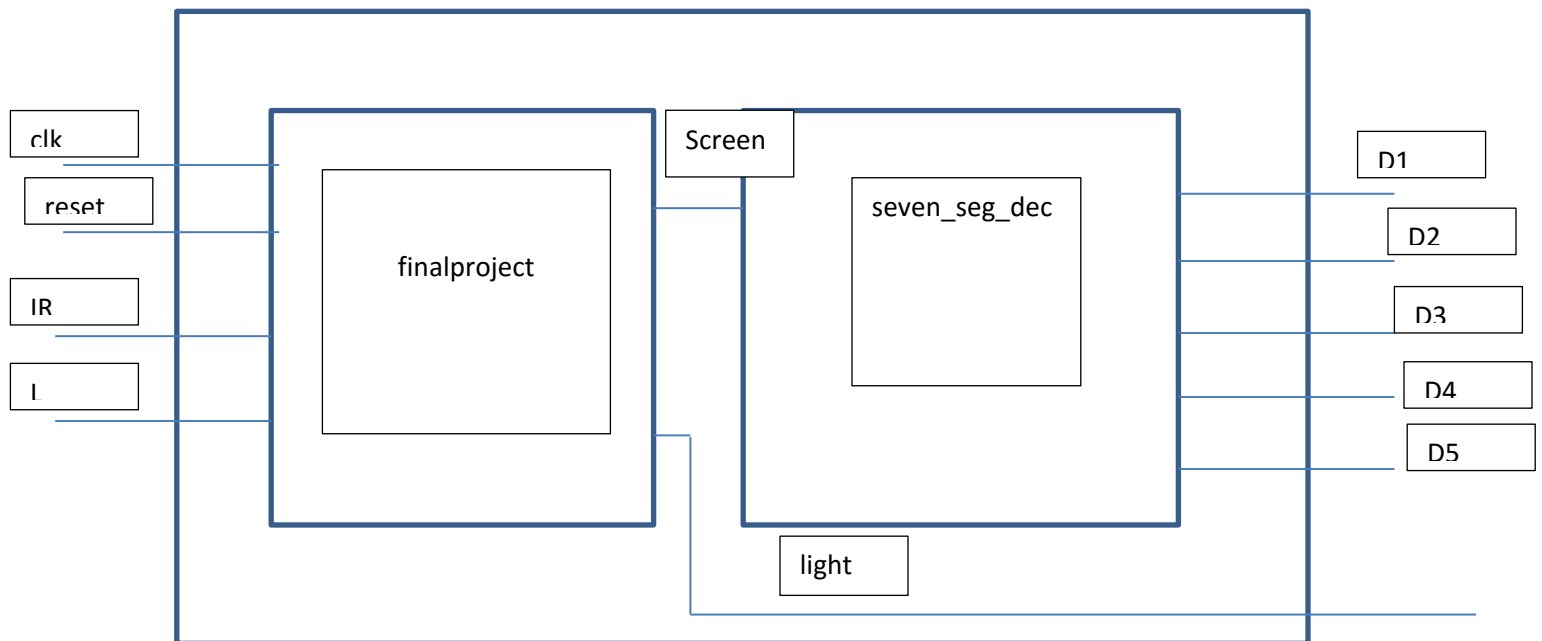
is responsible for showing the message "HELLO" on the 5 seven segments

Our entity takes as input the screen from the top level entity which states whether it is activated or not and the output is represented as 5 vectors where each bit in the vector represents

whether this part of the segment is on or not ,otherwise the output in all the 5 segments will be 1 as the seven segment is active-low.

THE TOP ENTITY

Is responsible for gathering both entities Elaborated more in the diagram



PIN Assignment

Named: * Edit: *										Filter: Pins: all	
Node Name	Direction	Location	I/O Bank	/REF Group	Port Location	I/O Standard	Reserved	Current Strength	Slew Rate	Referential Pin	Port Preservation
reset	Input	PIN_B8	7	B7_N0	PIN_B8	2.5 V		12mA (default)			
light	Output	PIN_AB2	3	B3_N0	PIN_AB2	2.5 V		12mA (default)	2 (default)		
L	Input	PIN_V8	3	B3_N0	PIN_V8	2.5 V		12mA (default)			
IR	Input	PIN_V10	3	B3_N0	PIN_V10	2.5 V		12mA (default)			
d5[6]	Output	PIN_B17	7	B7_N0	PIN_B17	2.5 V		12mA (default)	2 (default)		
d5[5]	Output	PIN_A18	7	B7_N0	PIN_A18	2.5 V		12mA (default)	2 (default)		
d5[4]	Output	PIN_A17	7	B7_N0	PIN_A17	2.5 V		12mA (default)	2 (default)		
d5[3]	Output	PIN_B16	7	B7_N0	PIN_B16	2.5 V		12mA (default)	2 (default)		
d5[2]	Output	PIN_E18	6	B6_N0	PIN_E18	2.5 V		12mA (default)	2 (default)		
d5[1]	Output	PIN_D18	6	B6_N0	PIN_D18	2.5 V		12mA (default)	2 (default)		
d5[0]	Output	PIN_C18	7	B7_N0	PIN_C18	2.5 V		12mA (default)	2 (default)		
d4[6]	Output	PIN_E17	6	B6_N0	PIN_E17	2.5 V		12mA (default)	2 (default)		
d4[5]	Output	PIN_D19	6	B6_N0	PIN_D19	2.5 V		12mA (default)	2 (default)		
d4[4]	Output	PIN_C20	6	B6_N0	PIN_C20	2.5 V		12mA (default)	2 (default)		
d4[3]	Output	PIN_C19	7	B7_N0	PIN_C19	2.5 V		12mA (default)	2 (default)		
d4[2]	Output	PIN_E21	6	B6_N0	PIN_E21	2.5 V		12mA (default)	2 (default)		
d4[1]	Output	PIN_E22	6	B6_N0	PIN_E22	2.5 V		12mA (default)	2 (default)		
d4[0]	Output	PIN_F21	6	B6_N0	PIN_F21	2.5 V		12mA (default)	2 (default)		
d3[6]	Output	PIN_B22	6	B6_N0	PIN_B22	2.5 V		12mA (default)	2 (default)		
d3[5]	Output	PIN_C22	6	B6_N0	PIN_C22	2.5 V		12mA (default)	2 (default)		
d3[4]	Output	PIN_B21	6	B6_N0	PIN_B21	2.5 V		12mA (default)	2 (default)		
d3[3]	Output	PIN_A21	6	B6_N0	PIN_A21	2.5 V		12mA (default)	2 (default)		
d3[2]	Output	PIN_B19	7	B7_N0	PIN_B19	2.5 V		12mA (default)	2 (default)		
d3[1]	Output	PIN_A20	7	B7_N0	PIN_A20	2.5 V		12mA (default)	2 (default)		
d3[0]	Output	PIN_B20	6	B6_N0	PIN_B20	2.5 V		12mA (default)	2 (default)		
d2[6]	Output	PIN_F20	6	B6_N0	PIN_F20	2.5 V		12mA (default)	2 (default)		
d2[5]	Output	PIN_F19	6	B6_N0	PIN_F19	2.5 V		12mA (default)	2 (default)		
d2[4]	Output	PIN_H19	6	B6_N0	PIN_H19	2.5 V		12mA (default)	2 (default)		
d2[3]	Output	PIN_J18	6	B6_N0	PIN_J18	2.5 V		12mA (default)	2 (default)		
d2[2]	Output	PIN_E19	6	B6_N0	PIN_E19	2.5 V		12mA (default)	2 (default)		
d2[1]	Output	PIN_E20	6	B6_N0	PIN_E20	2.5 V		12mA (default)	2 (default)		
d2[0]	Output	PIN_F18	6	B6_N0	PIN_F18	2.5 V		12mA (default)	2 (default)		
d1[6]	Output	PIN_N20	6	B6_N0	PIN_N20	2.5 V		12mA (default)	2 (default)		
d1[5]	Output	PIN_N19	6	B6_N0	PIN_N19	2.5 V		12mA (default)	2 (default)		
d1[4]	Output	PIN_M20	6	B6_N0	PIN_M20	2.5 V		12mA (default)	2 (default)		
d1[3]	Output	PIN_N18	6	B6_N0	PIN_N18	2.5 V		12mA (default)	2 (default)		
d1[2]	Output	PIN_L18	6	B6_N0	PIN_L18	2.5 V		12mA (default)	2 (default)		
d1[1]	Output	PIN_K20	6	B6_N0	PIN_K20	2.5 V		12mA (default)	2 (default)		
d1[0]	Output	PIN_J20	6	B6_N0	PIN_J20	2.5 V		12mA (default)	2 (default)		
clk	Input	PIN_P11	3	B3_N0	PIN_P11	2.5 V		12mA (default)			
<<new node>>											

