

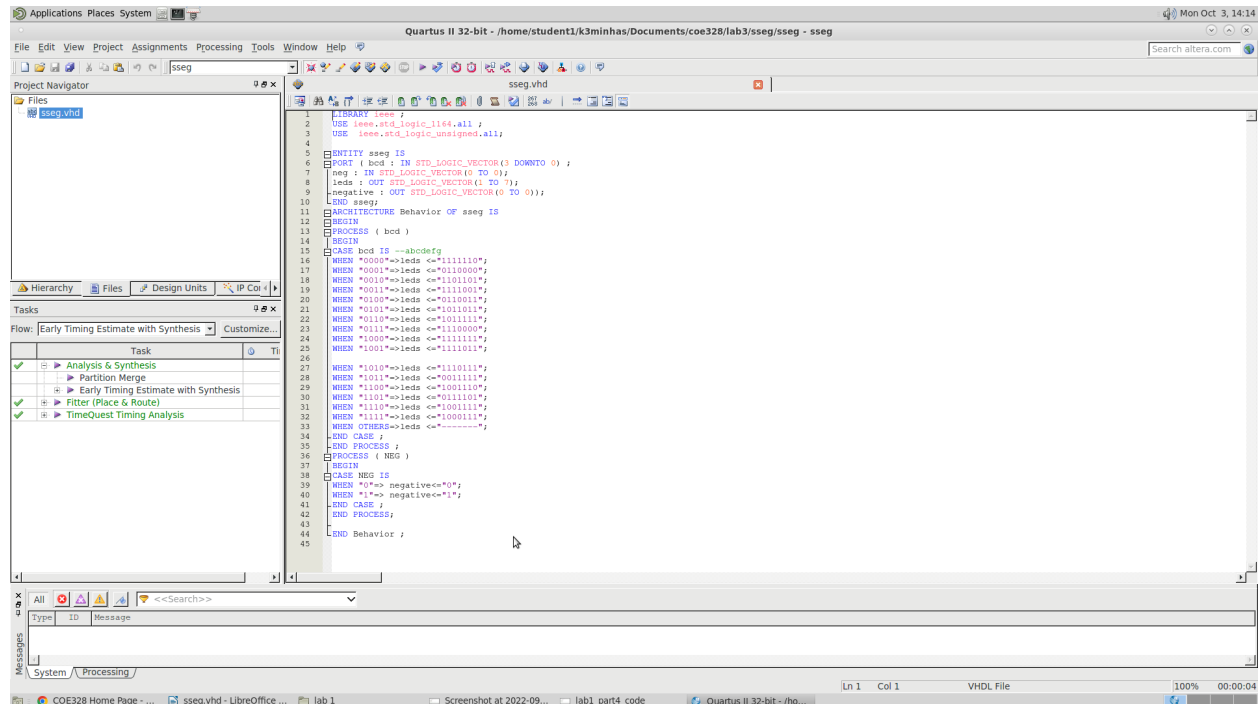
LAB 3: Adder and Subtraction unit

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Course: COE328 -08

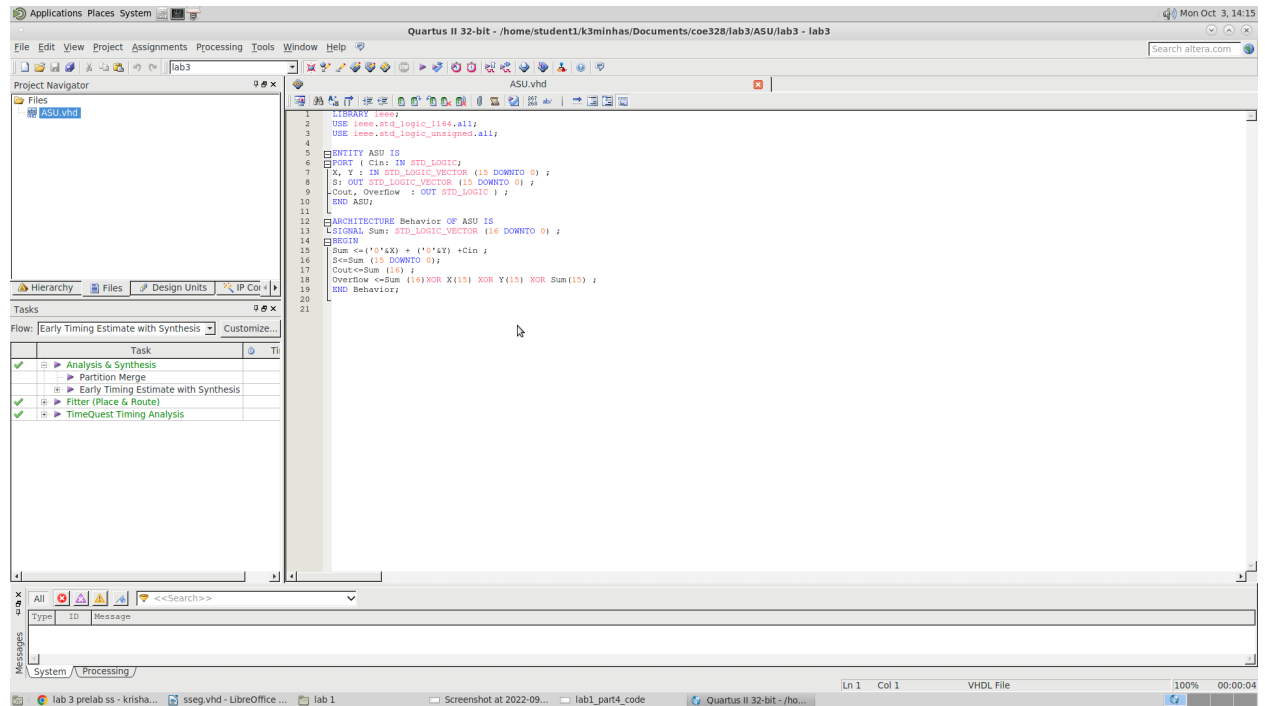
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```
1 library ieee;
2 use ieee.std_logic_1164.all;
3 use ieee.std_logic_unsigned.all;
4
5 entity sseg is
6     port ( bcd : in std_logic_vector(3 downto 0);
7           neg : in std_logic_vector(0 to 0);
8           leds : out std_logic_vector(1 to 7);
9           negative : out std_logic_vector(0 to 0));
10 end sseg;
11
12 architecture Behavior of sseg is
13 begin
14     process ( bcd )
15     case bcd is --abdefg
16     when "0000" => leds <= "111110";
17     when "0001" => leds <= "0110000";
18     when "0010" => leds <= "10110101";
19     when "0011" => leds <= "1111000";
20     when "0100" => leds <= "0110011";
21     when "0101" => leds <= "1011011";
22     when "0110" => leds <= "1011111";
23     when "0111" => leds <= "1110000";
24     when "1000" => leds <= "1111111";
25     when "1001" => leds <= "1111011";
26
27     when "1010" => leds <= "1110111";
28     when "1011" => leds <= "0011111";
29     when "1100" => leds <= "1001110";
30     when "1101" => leds <= "0011101";
31     when "1110" => leds <= "1001111";
32     when "1111" => leds <= "1000111";
33     when others => leds <= "-----";
34     end case;
35 end process;
36
37 process ( neg )
38 case neg is
39 when "0" => negative <= "0";
40 when "1" => negative <= "1";
41 end case;
42 end process;
43
44 end Behavior;
```

{SSEG.vhd: VHDL code to represent the sequence 0-F }



{ASU.vhd: }