library ieee;

use ieee.std\_logic\_1164.all;

use ieee.numeric\_std.all;

entity teht1 is

port(

kytkin : in std\_logic\_vector (3 downto 0);

segmentit : out std\_logic\_vector (6 downto 0)

);

end teht1;

architecture behavioral of teht1 is

begin

process(kytkin)

begin

case kytkin is

when "0000" => segmentit <= "0000001"; -- 0

when "0001" => segmentit <= "1001111"; -- 1

when "0010" => segmentit <= "0010010"; -- 2

when "0011" => segmentit <= "0000110"; -- 3

when "0100" => segmentit <= "1001100"; -- 4

when "0101" => segmentit <= "0100100"; -- 5

when "0110" => segmentit <= "0100000"; -- 6

when "0111" => segmentit <= "0001111"; -- 7

when "1000" => segmentit <= "0000000"; -- 8

when "1001" => segmentit <= "0000100"; -- 9

when "1010" => segmentit <= "0001000"; -- A

when "1011" => segmentit <= "1100000"; -- B

when "1100" => segmentit <= "0110001"; -- C

when "1101" => segmentit <= "1000010"; -- D

when "1110" => segmentit <= "0110000"; -- E

when "1111" => segmentit <= "0111000"; -- F

when others => segmentit <= "1111111"; -- kaikki pois päältä

end case;

end process;

end behavioral;

Kuva, joka sisältää kohteen kuvakaappaus, näyttö, Multimediaohjelmisto, Grafiikkaohjelmisto

Kuvaus luotu automaattisesti

Kuva 1/ '0010' eli luku 2

Tb koodi:

LIBRARY ieee;

USE ieee.std\_logic\_1164.all;

ENTITY teht1\_vhd\_tst IS

END teht1\_vhd\_tst;

ARCHITECTURE teht1\_arch OF teht1\_vhd\_tst IS

-- constants

-- signals

SIGNAL kytkin : STD\_LOGIC\_VECTOR(3 DOWNTO 0);

SIGNAL segments : STD\_LOGIC\_VECTOR(6 DOWNTO 0);

COMPONENT teht1

PORT (

kytkin : IN STD\_LOGIC\_VECTOR(3 DOWNTO 0);

segments : OUT STD\_LOGIC\_VECTOR(6 DOWNTO 0)

);

END COMPONENT;

BEGIN

i1 : teht1

PORT MAP (

-- list connections between master ports and signals

kytkin => kytkin,

segments => segments

);

init : PROCESS

-- variable declarations

BEGIN

wait for 10ns;

kytkin <= "0001";

wait for 10ns;

kytkin <= "0010";

wait for 10ns;

kytkin <= "0100";

wait for 10ns;

-- code that executes only once

WAIT;

END PROCESS init;

always : PROCESS

-- optional sensitivity list

-- ( )

-- variable declarations

BEGIN

-- code executes for every event on sensitivity list

WAIT;

END PROCESS always;

END teht1\_arch;