Labprotokoll for Lab 5, Parkeringshus

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| **Innleveringsfrist:** | Se Canvas |
| **Innlevering** | **Lab 5: Parkeringsanlegg** |
| **Navn på studenter :** | **Simen Fuglestad Endre Røberg Løseth** |
| **Innlevert zip-fil** | **NN\_NN\_lab5.zip**  **Dette dokumentet (labprotokollen) leveres som pdf.** |

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| **Oppgave 1: Reset synchronizer** |
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***Sett inn vhdl-kode***

***A picture containing screenshot, text

Description automatically generated***

***Sett inn bilde av simulering her. Ta med kode***

***constant periode : time := 10 us;***

***p\_clk : process***

***begin***

***clock\_50 <= '0';***

***loop***

***wait for periode/2;***

***clock\_50 <= not clock\_50;***

***end loop;***

***wait;***

***end process p\_clk;***

***init : PROCESS***

***-- variable declarations***

***BEGIN***

***-- code that executes only once***

***rst\_n <= '0', '1' after 50 us, '0' after 70 us, '1' after 102 us;***

***WAIT;***

***A picture containing wall, object, clock

Description automatically generated***

***Sett inn bilde av RTL skjema her***

***A picture containing clock

Description automatically generated***

**Oppgave 2: Lag en puls ved negativ flanke på innsignal.**

***Sett inn vhdl-kode***

***A screenshot of a cell phone

Description automatically generated***

***Sett inn bilde av simulering her. Ta med kode***

***Samme klokkeprocess som før***

***init : PROCESS***

***-- variable declarations***

***BEGIN***

***-- code that executes only once***

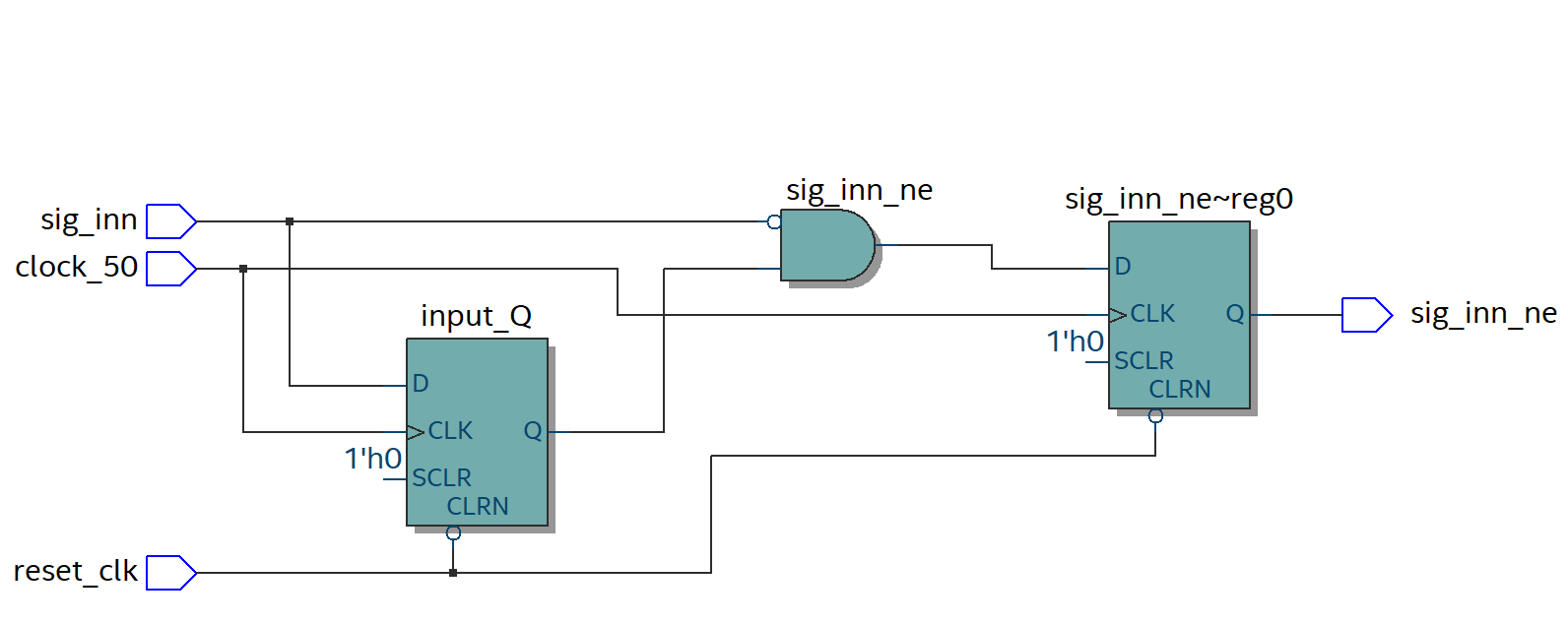
***sig\_inn <= '0', '1' after 37 us, '0' after 53 us, '1' after 83 us;***

***WAIT;***

***A picture containing object

Description automatically generated***

***Sett inn bilde av RTL skjema her***

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| **Oppgave 3: Antiprell** |

***Sett inn vhdl-kode***

***A screenshot of a social media post

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***A screenshot of a cell phone

Description automatically generated***

***A screenshot of a cell phone

Description automatically generated***

***Sett inn bilde av simulering her. Ta med kode***

***Samme klokkeprocess som før***

***init : PROCESS***

***-- variable declarations***

***BEGIN***

***-- code that executes only once***

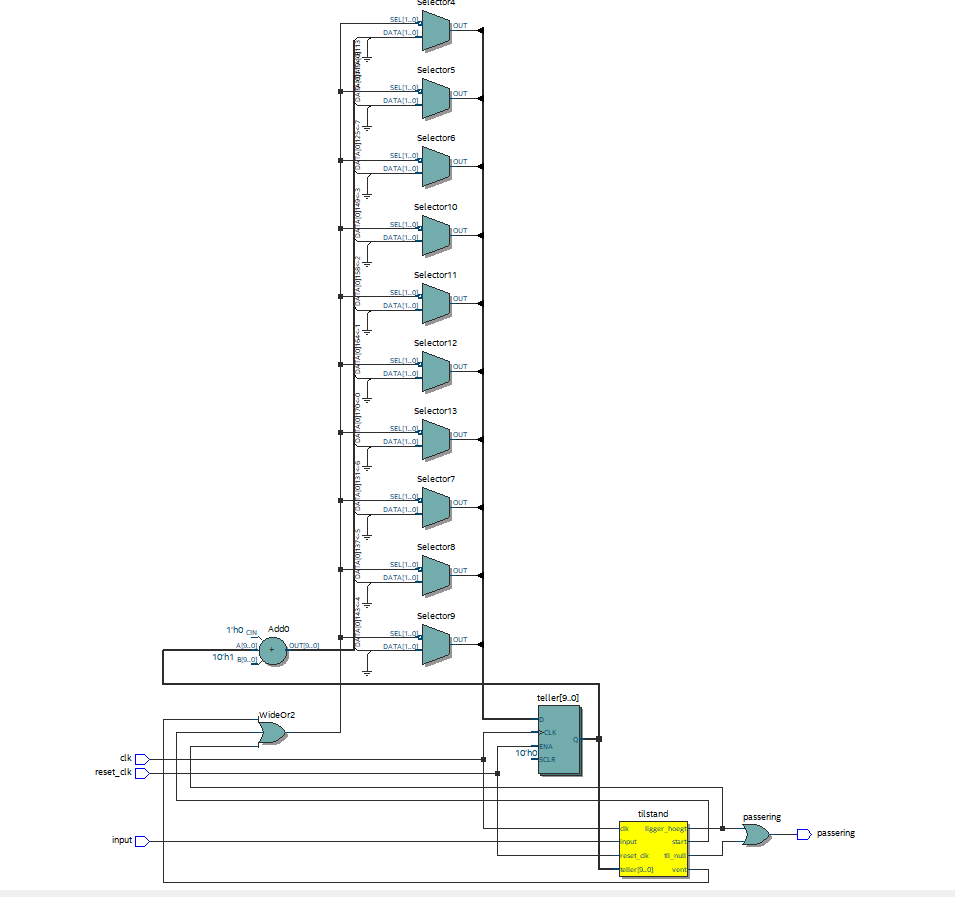
***input <= '0', '1' after 100 us, '0' after 10111 us;***

***WAIT;***

***A picture containing screenshot

Description automatically generated***

***Sett inn bilde av RTL skjema her***



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| **Oppgave 4: Tell antall biler (opp-ned-teller)** |

***Sett inn vhdl-kode***

***A screenshot of a cell phone

Description automatically generated***

***A screenshot of a social media post

Description automatically generated***

***Sett inn bilde av simulering her. Ta med kode***

***Samme klokkeprocess som før***

***init : PROCESS***

***BEGIN***

***bil\_inn <= '0', '1' after 40 us, '0' after 78 us, '1' after 150 us, '0' after 250 us;***

***bil\_ut <= '0', '1' after 270 us, '0' after 300 us, '1' after 320 us, '0' after 360 us;***

***WAIT;***

***A screen shot of a clock

Description automatically generated***

***Sett inn bilde av RTL skjema her***

A screenshot of a video game

Description automatically generated

**Oppgave 5: Tell antall biler som passerer en sensor.**

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| Lever zipfil av prosjektet |