**(EEL2020)** **DIGITAL DESIGN LAB5 REPORT**

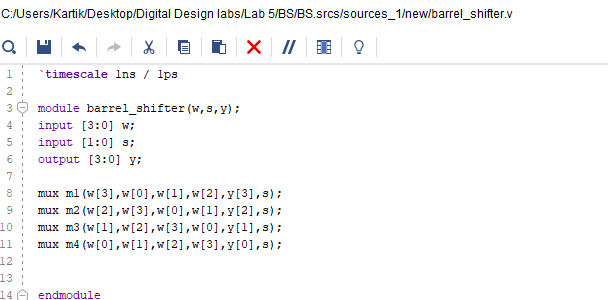
KARTIK CHOUDHARY B20CS025

**Work** 1. Write a program to implement a Barrel Shifter

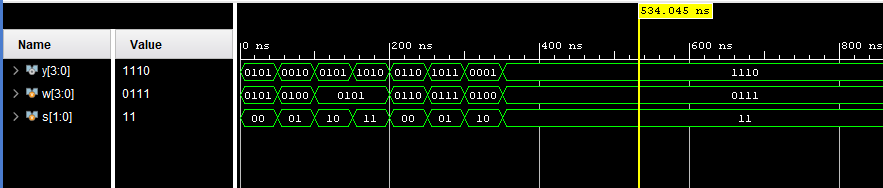
*Test bench*

**

*Verilog Code*

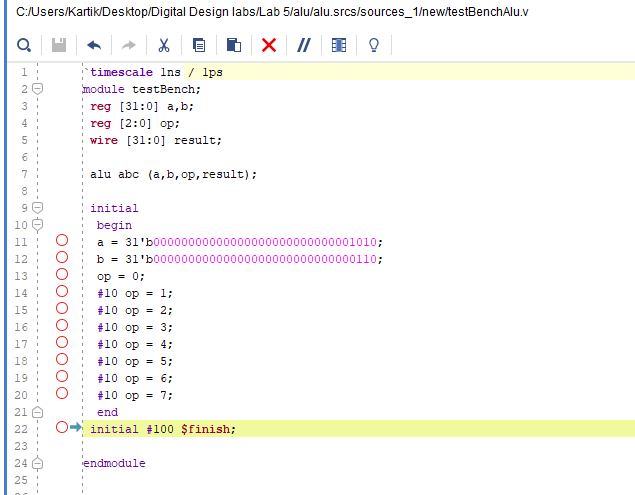
**

*Waveform*

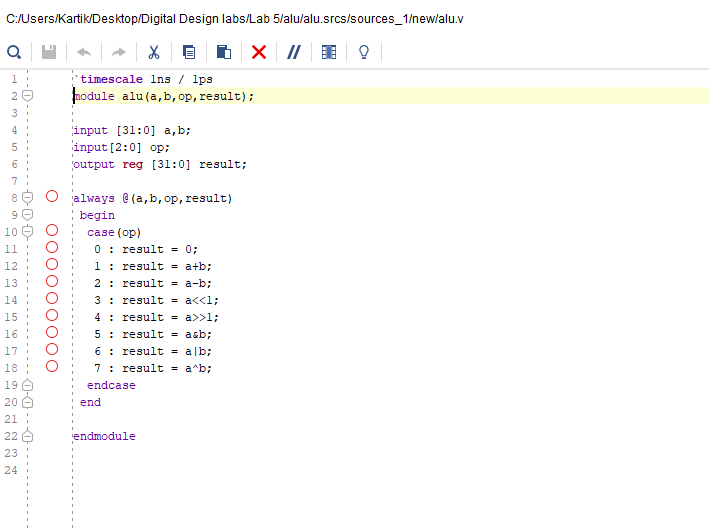


**Work 2: Write a Program to implement a 32 bit ALU.**

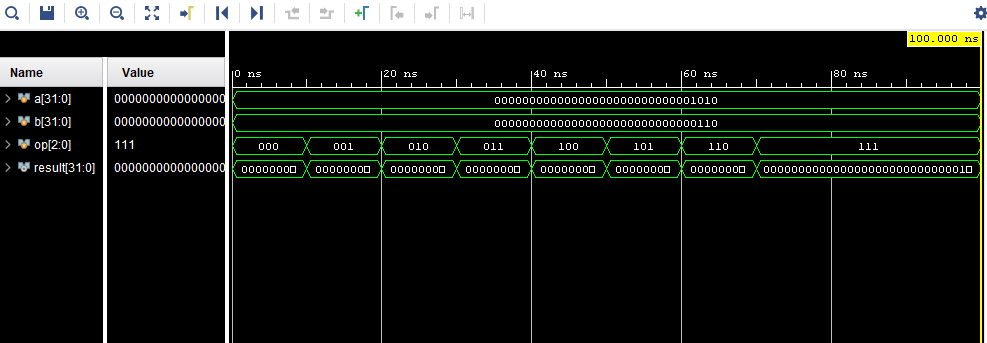
*Test Bench*

**

*Verilog Code*

**

*Waveform*

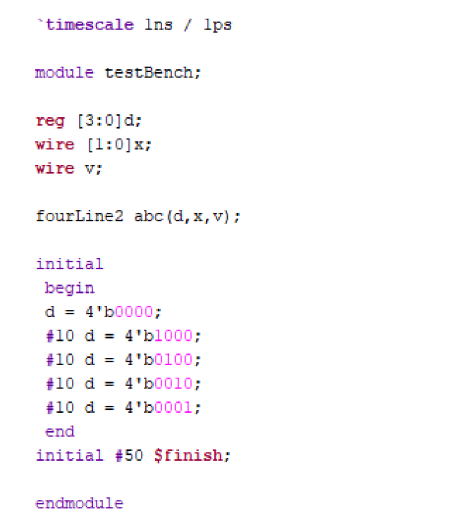
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**3. Write a program to implement a 4 line to 2**

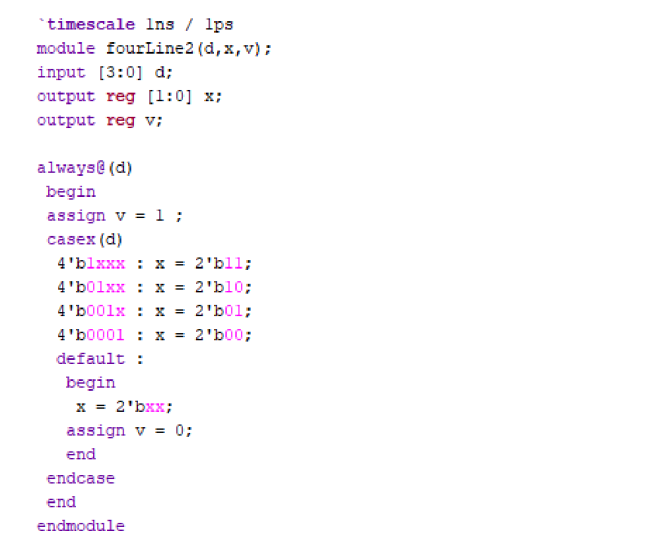
**line priority encoder using**

**a. Casex statements**

*Test Bench*

**

*Verilog Code*

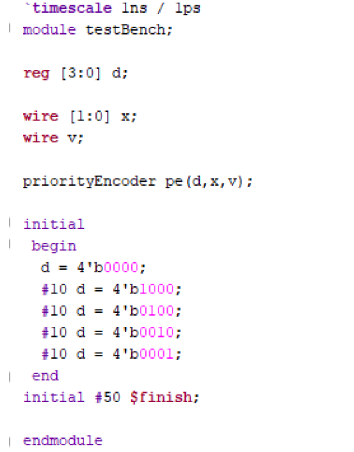
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*Waveform*

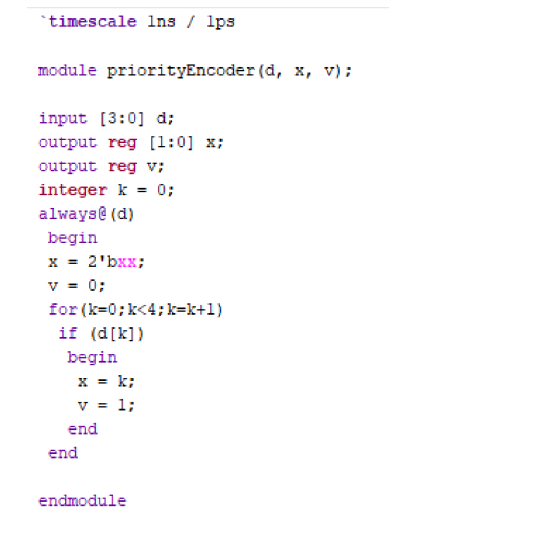
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**b. For loop**

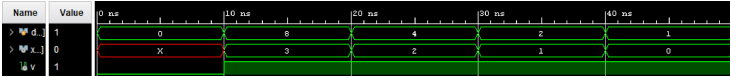
*Test Bench*

**

*Verilog Code*

**

*Waveform*

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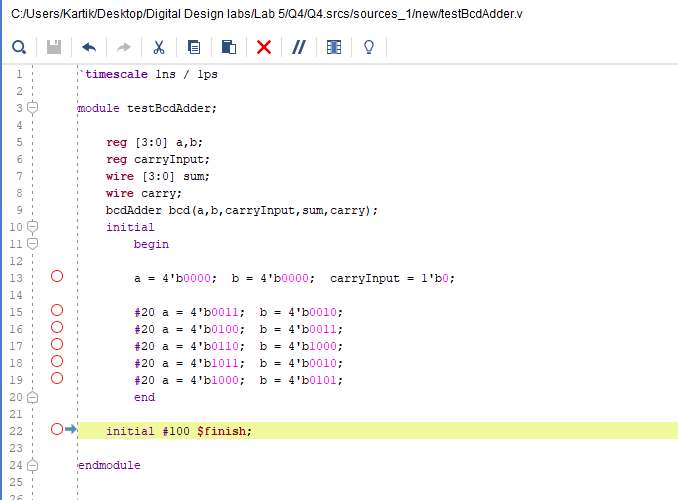
**4. Write a behavioural code for implementing**

**a. a BCD Adder/Subtractor Unit.**

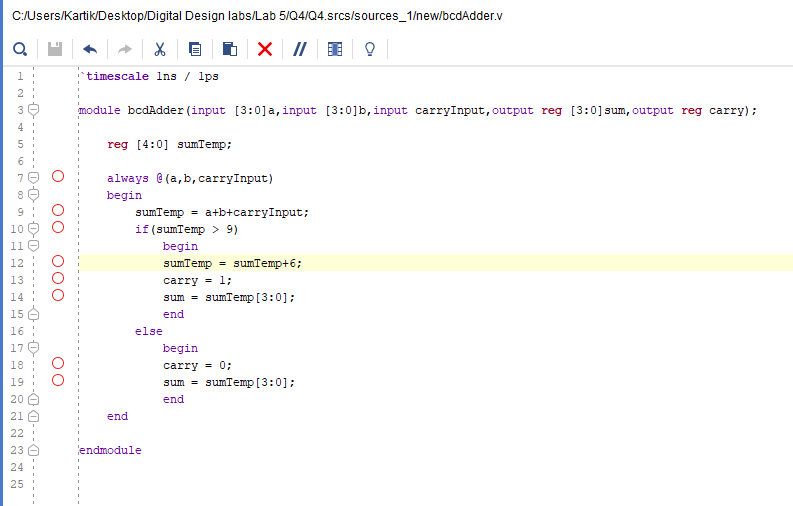
**b. Multiply by 5 circuit.**

**BCD ADDER**

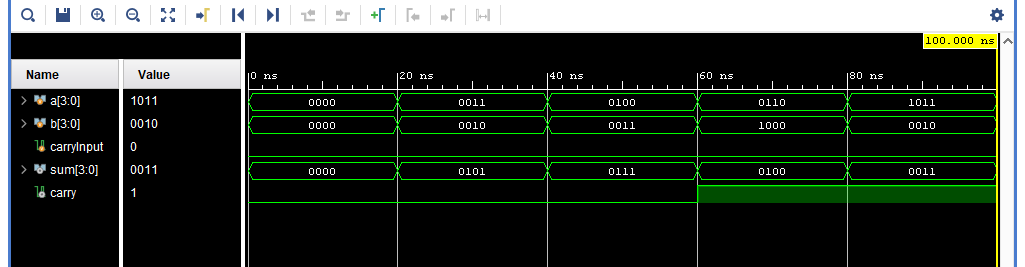
*Test bench*

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*Verilog code*

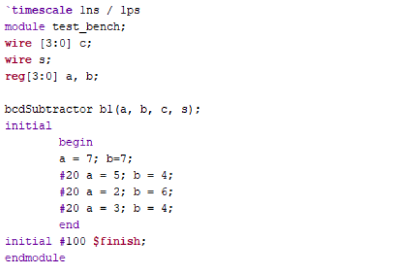
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*Waveform*

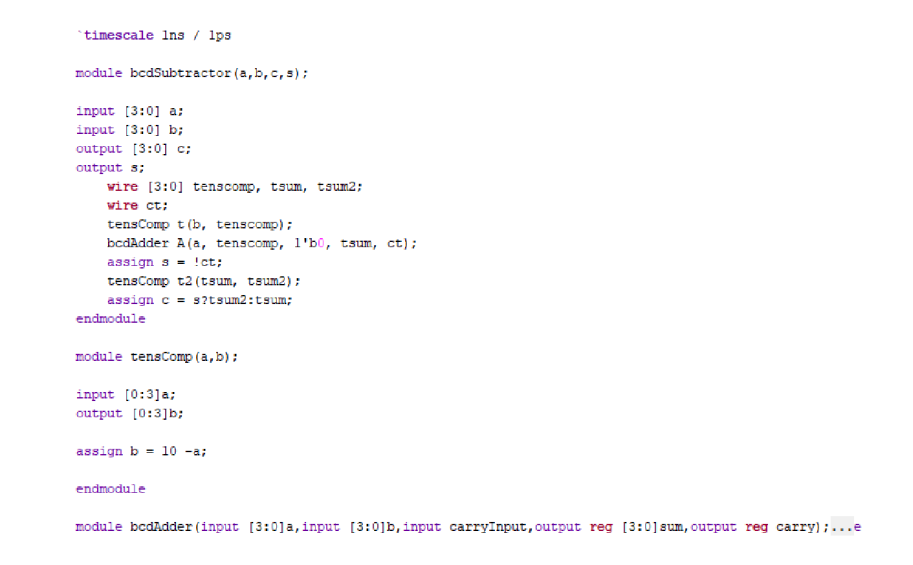
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**BCD Subtractor**

*Test bench*

**

*Verilog code*

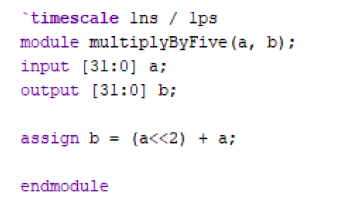
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*Waveform*

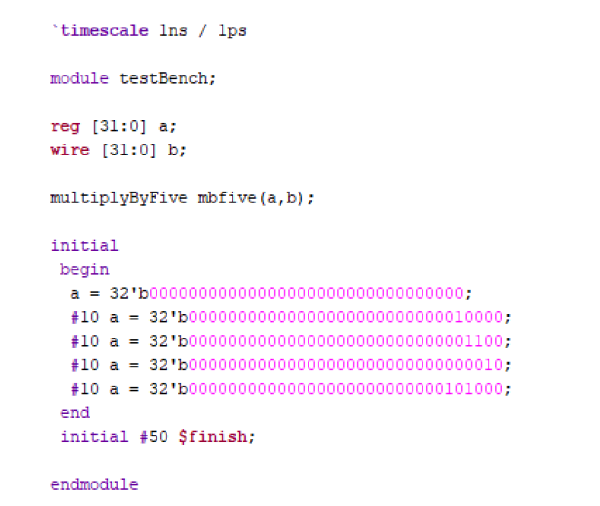
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**Multiply by 5 circuit.**

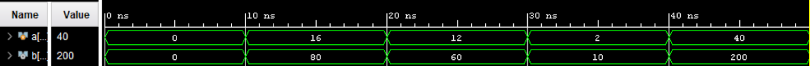
*Test bench*

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*Verilog code*

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*Waveform*

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