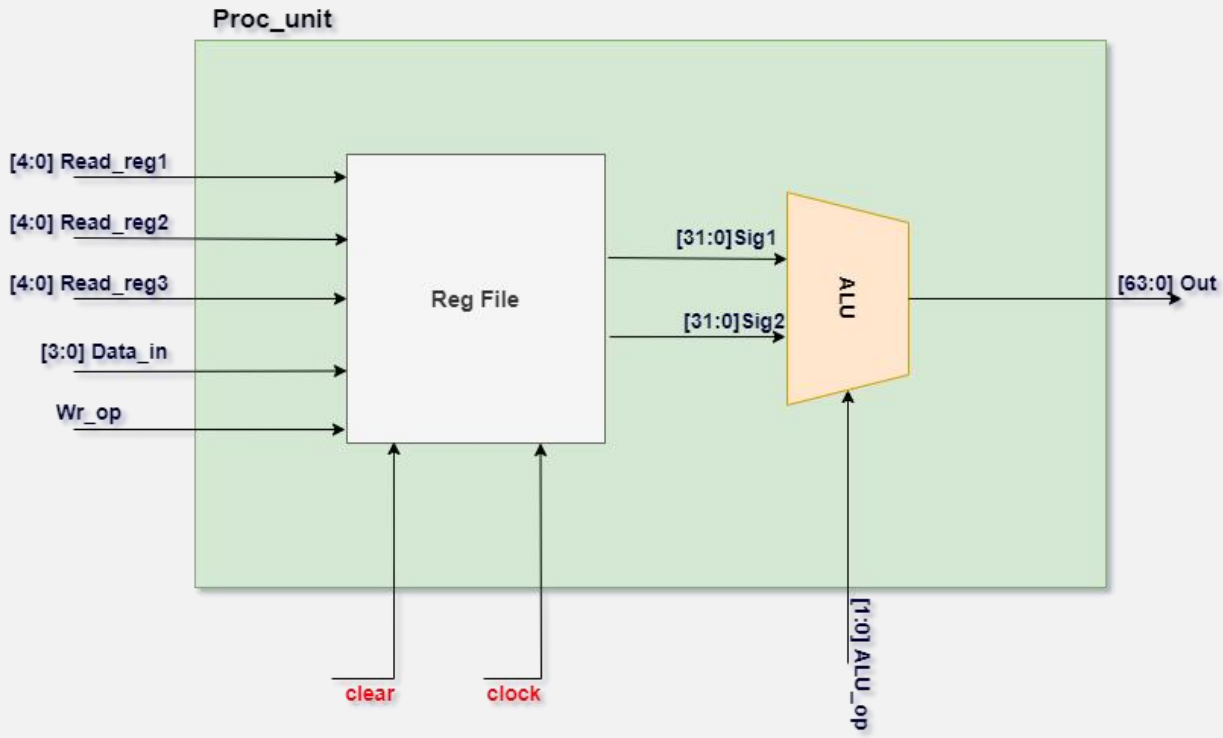
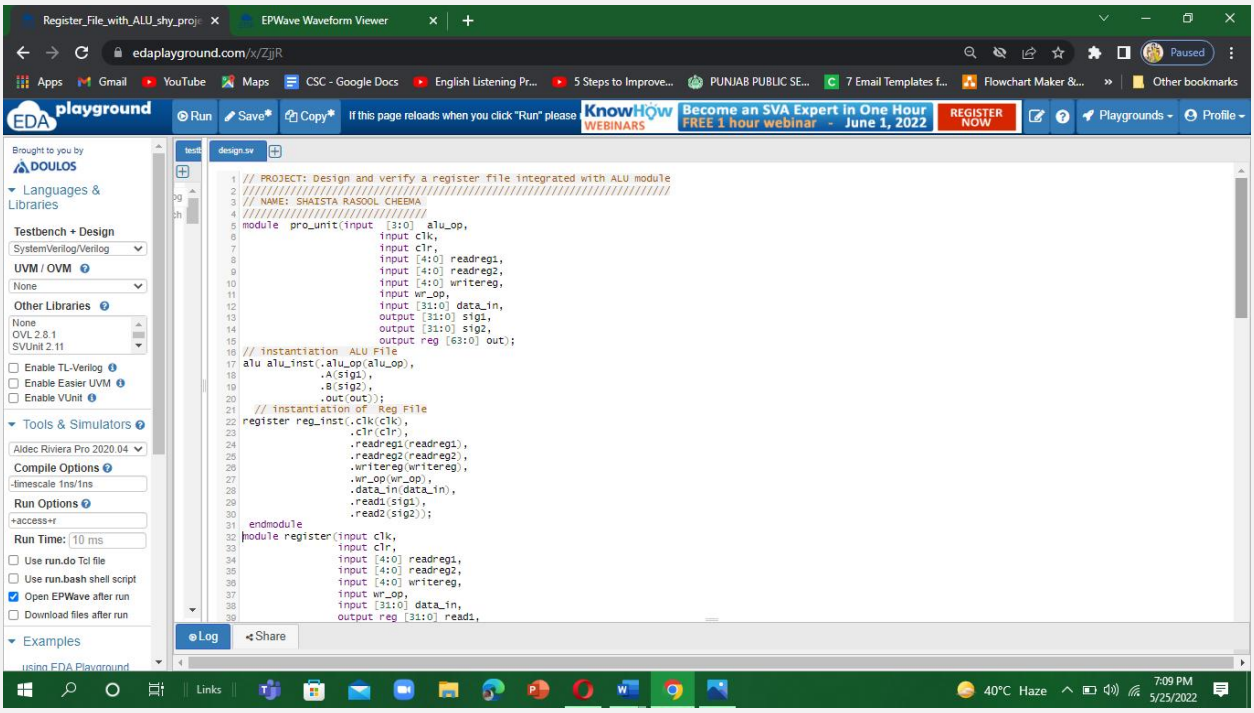
Name: Shaista Rasool Cheema

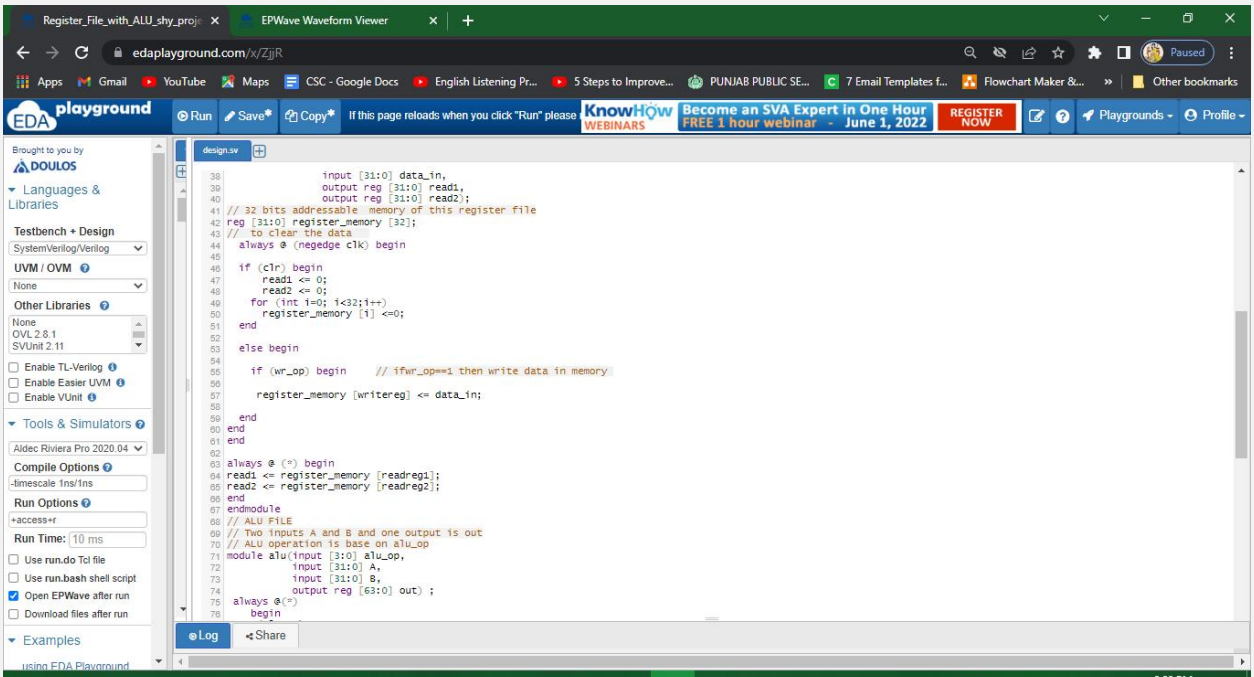
Project : Design and verify a register file integrated with ALU module.

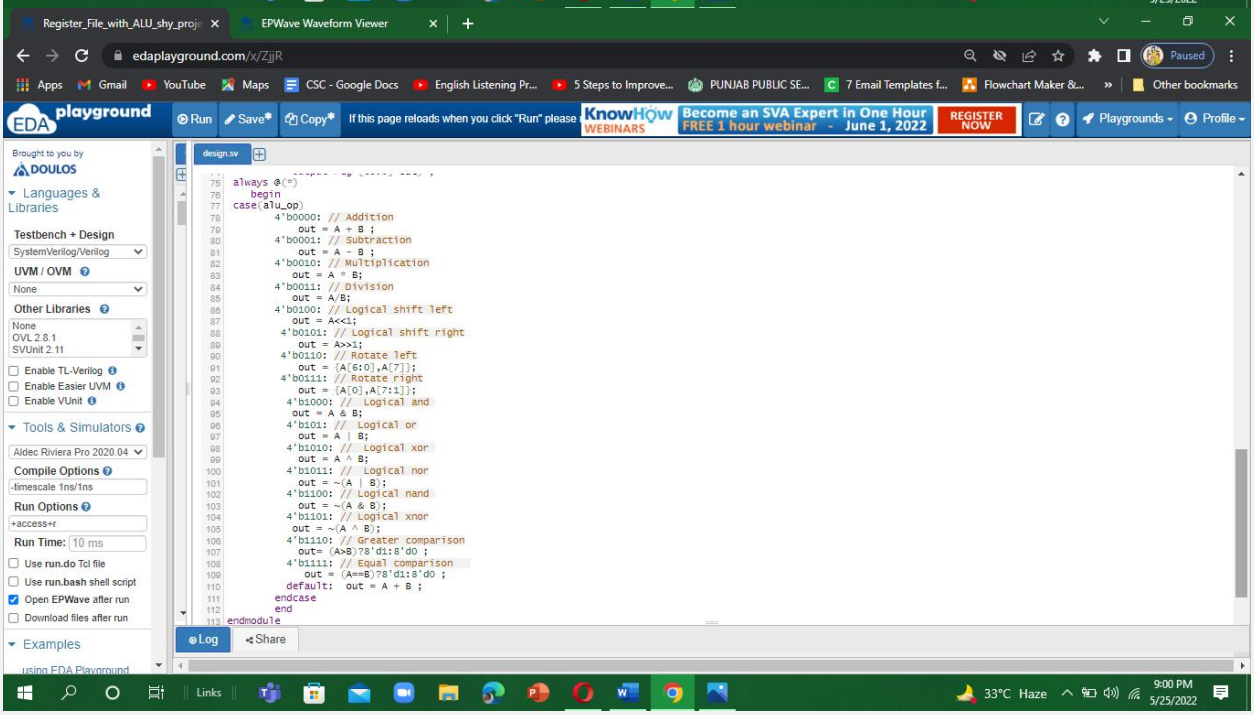


CODE

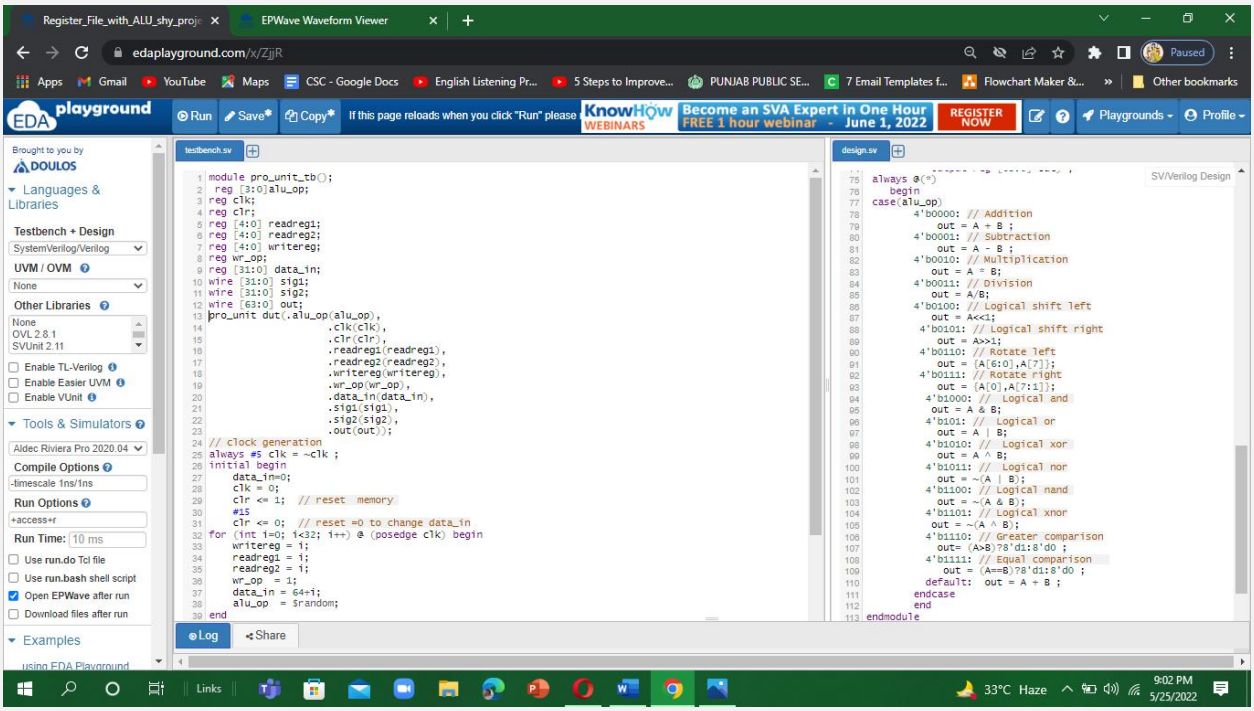



```
// PROJECT: Design and verify a register file integrated with ALU module
//////////////////////////////////////////////////////////////////////////
// NAME: SHAISTA RASOOL CHEEMA
//////////////////////////////
module  pro_unit(input  [31:0]  alu_op,
                        input clk,
                        input clr,
                        input [4:0] readreg1,
                        input [4:0] readreg2,
                        input [4:0] writereg,
                        input wr_op,
                        input [31:0] data_in,
                        output [31:0] sig1,
                        output [31:0] sig2,
                        output reg [63:0] out);
// instantiation  ALU File
alu alu_inst(.alu_op(alu_op),
             .A(sig1),
             .B(sig2),
             .out(out));
 // instantiation of  Reg File
register reg_inst(.clk(clk),
                  .clr(clr),
                 .readreg1(readreg1),
                 .readreg2(readreg2),
                 .writereg(writereg),
                 .wr_op(wr_op),
                 .data_in(data_in),
                 .read1(sig1),
                 .read2(sig2));
 endmodule
module register(input clk,
                input clr,
                input [4:0] readreg1,
                input [4:0] readreg2,
                input [4:0] writereg,
                input wr_op,
                input [31:0] data_in,
                output reg [31:0] read1,
```





Testbench Code


Register_File_with_ALU_shy_proj
EPWave Waveform Viewer
edaplayground.com/x/ZjjR
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OVL 2.8.1
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Enable TL-Verilog
Enable Easier UVM
Enable VUnit
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Aldec Riviera Pro 2020.04
Compile Options
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Run Options
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Use run.do Tcl file
Use run.bash shell script
Open EPWave after run
Download files after run
Examples
using EDA Playground
testbench.sv
design.sv
SV/Verilog Design
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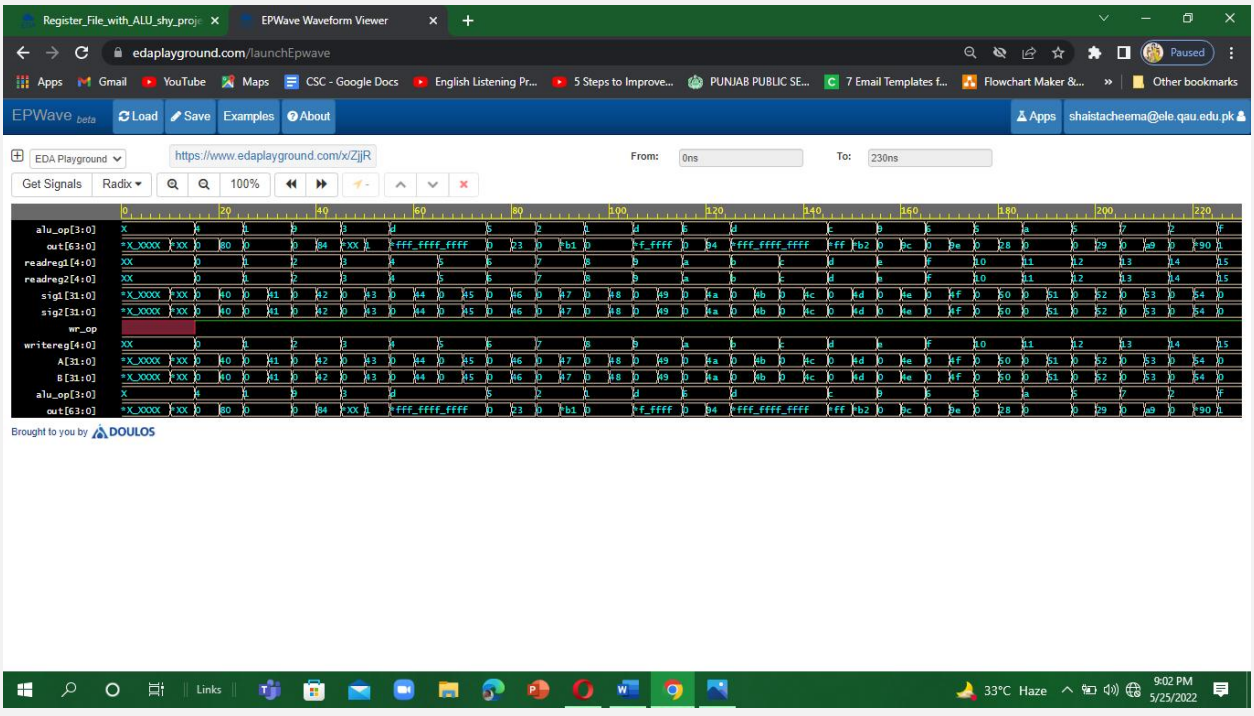
RESULTS


Register_File_with_ALU_shy_proj
EPWave Waveform Viewer
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