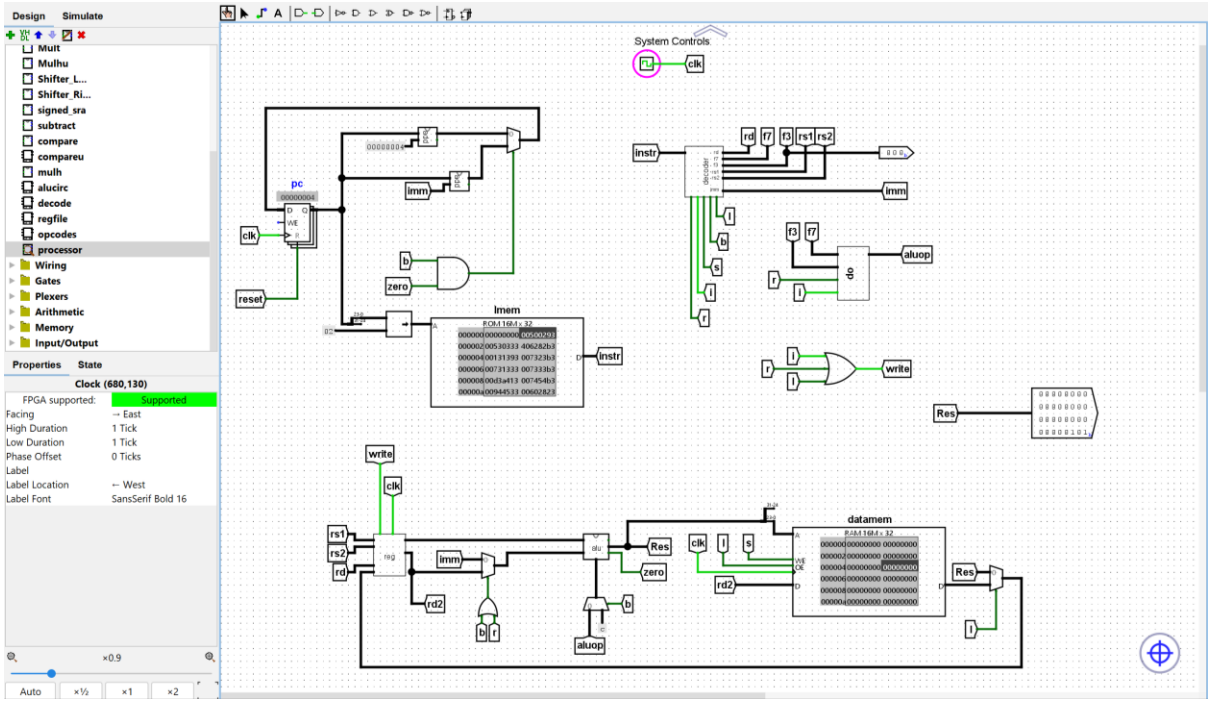
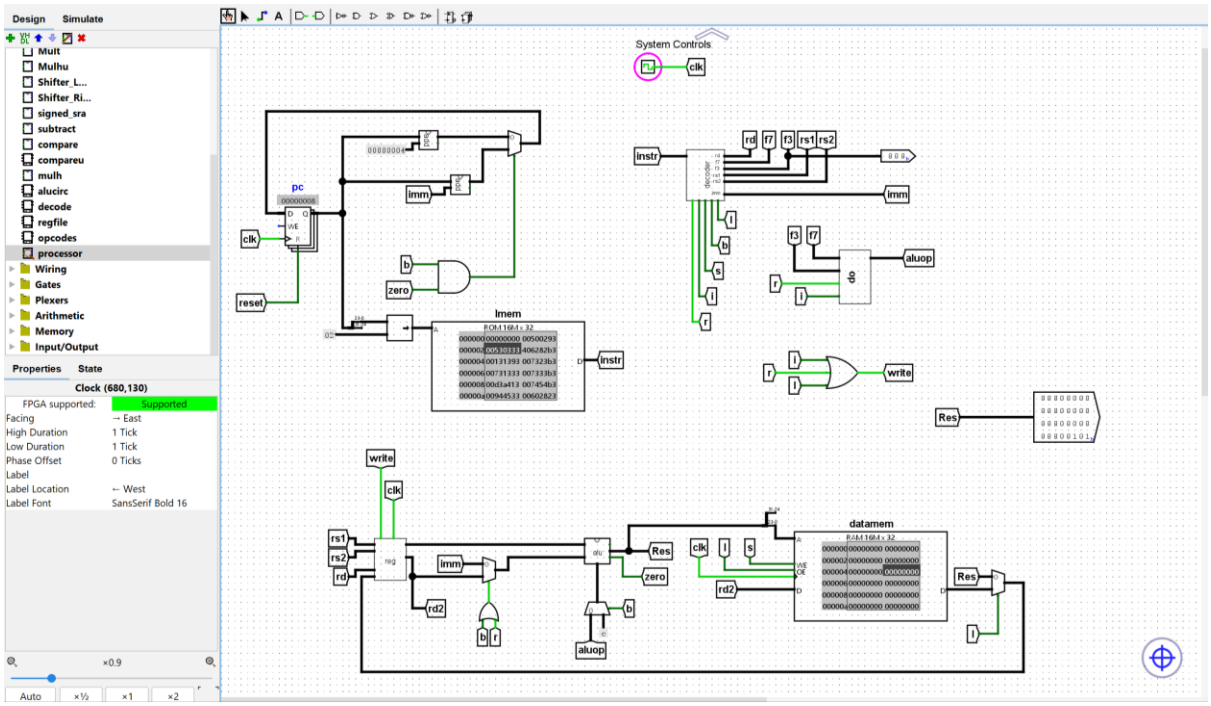
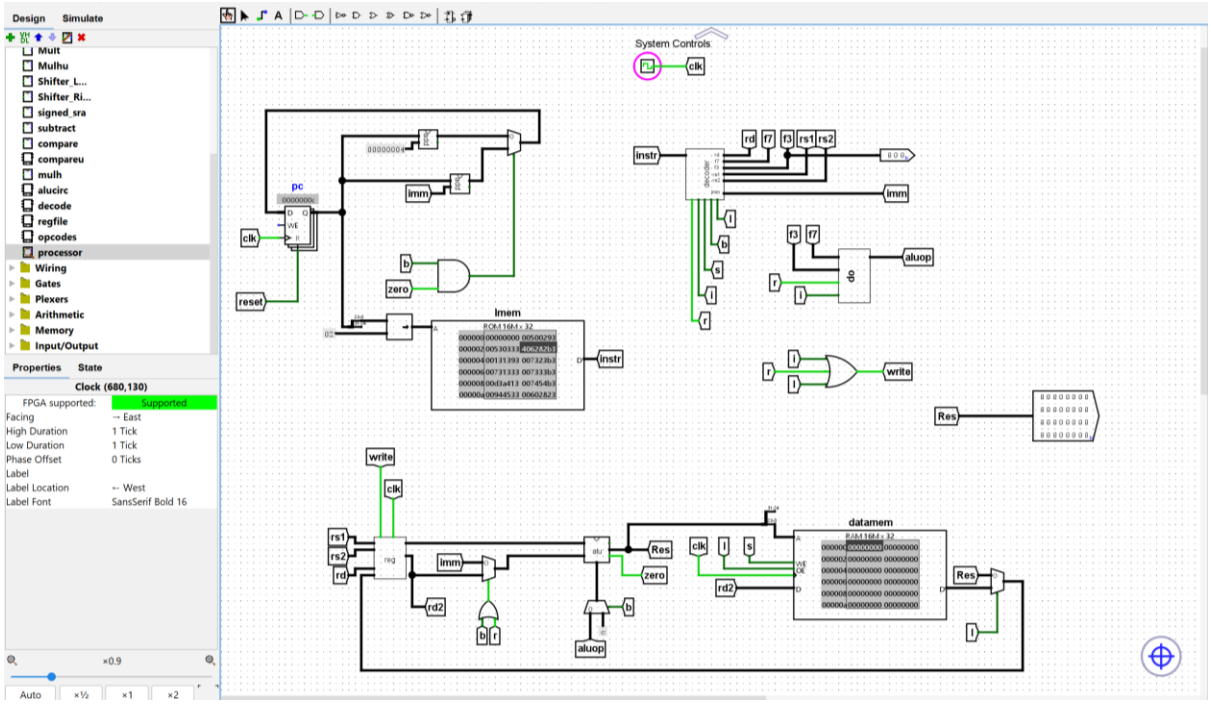


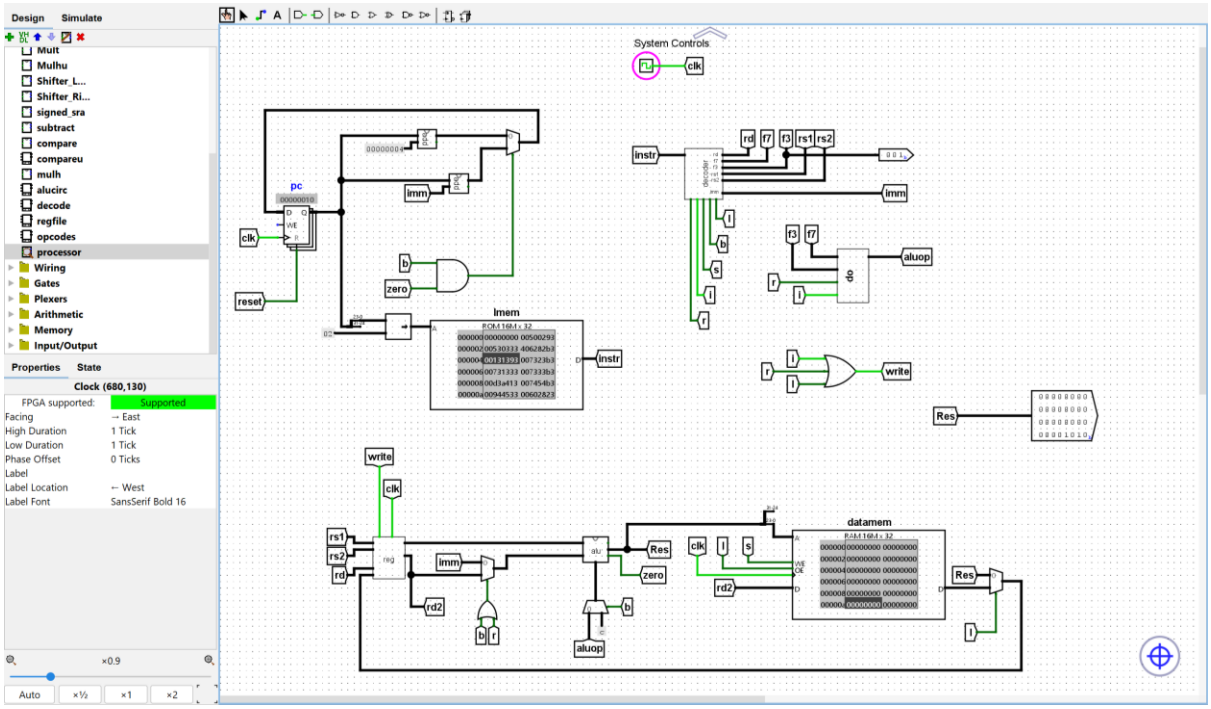
Instruction = (0x00500293) => addi x5, x0, 5



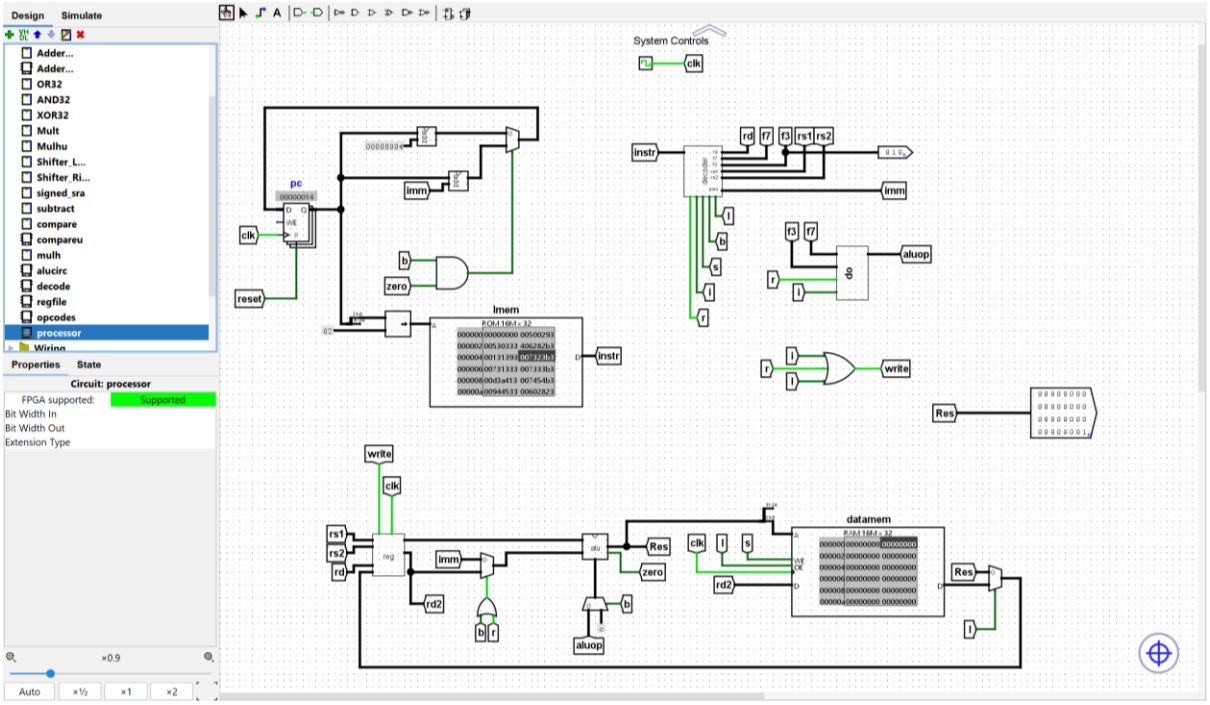
Instruction = (0x00530333) => add x6, x5, x6



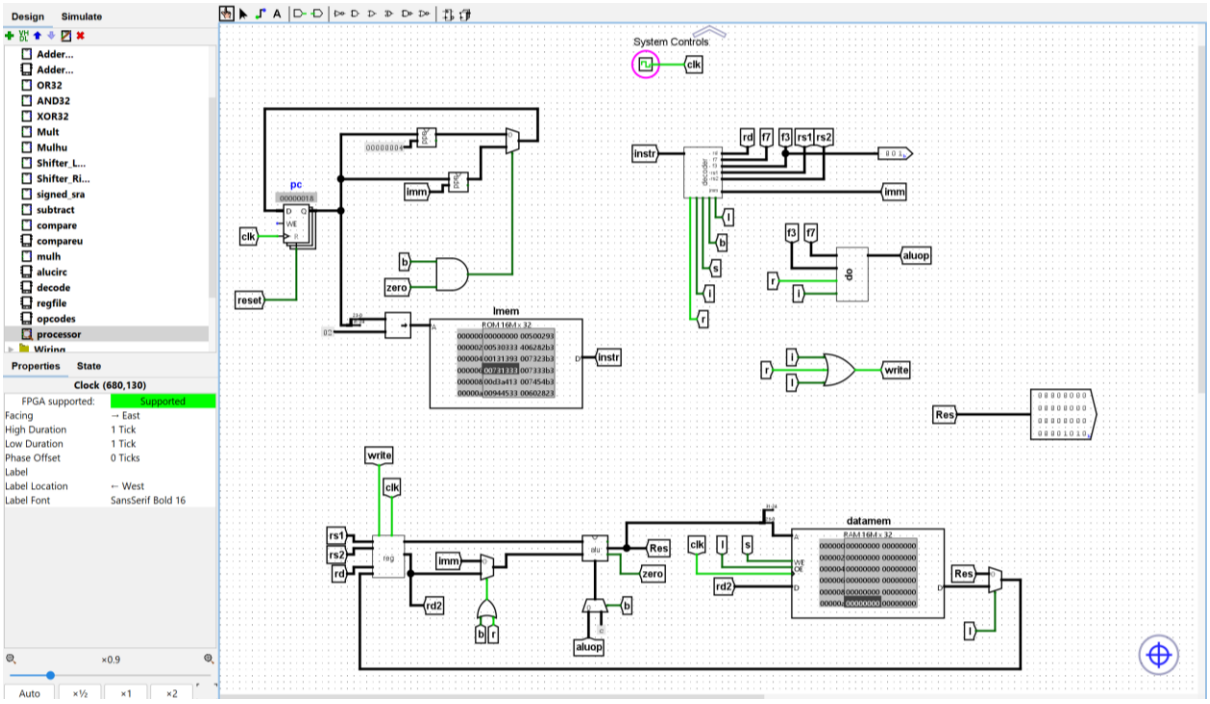
Instruction = (0x406282b3) => sub x5, x5, x6



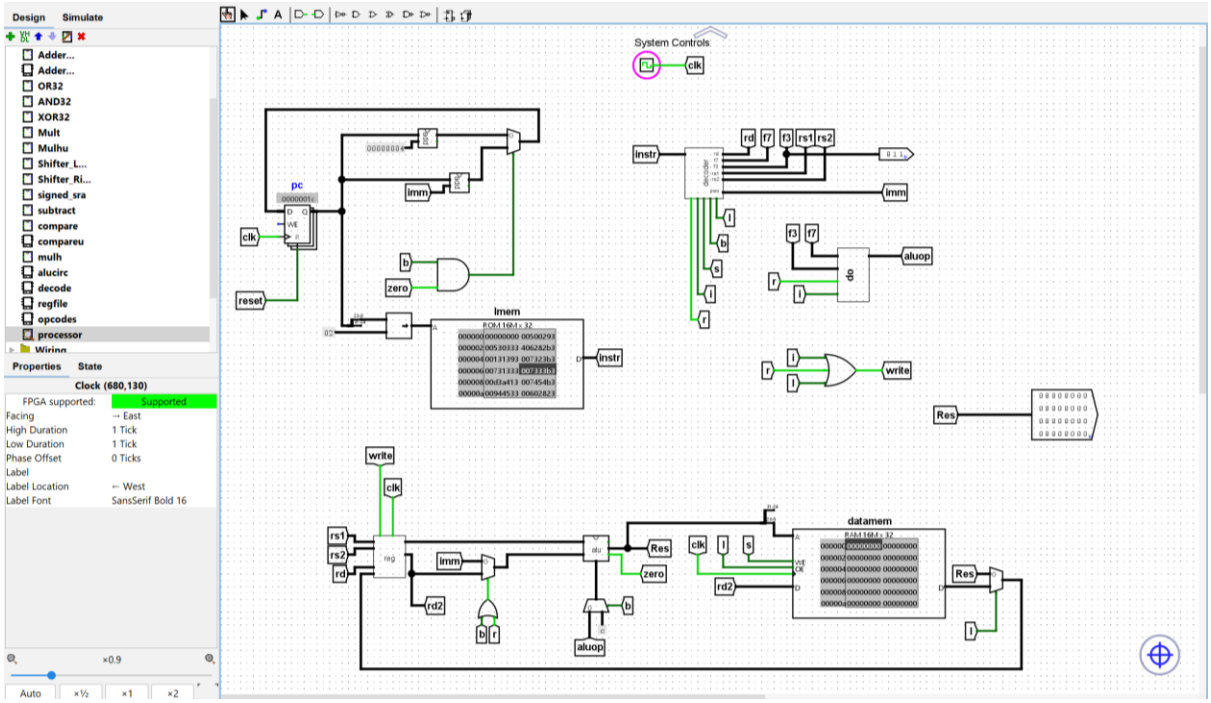
Instruction = (0x00131393) => slli x7, x6, 1



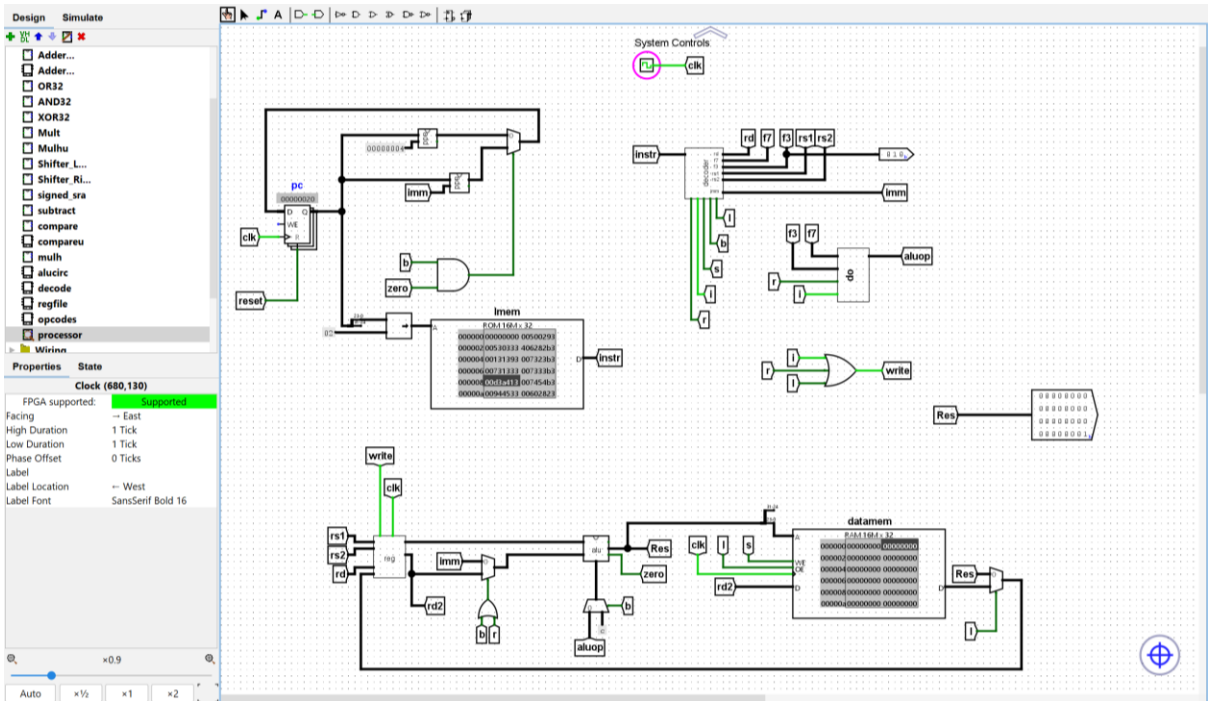
Instruction = (0x007323b3) => slt x7, x6, x7



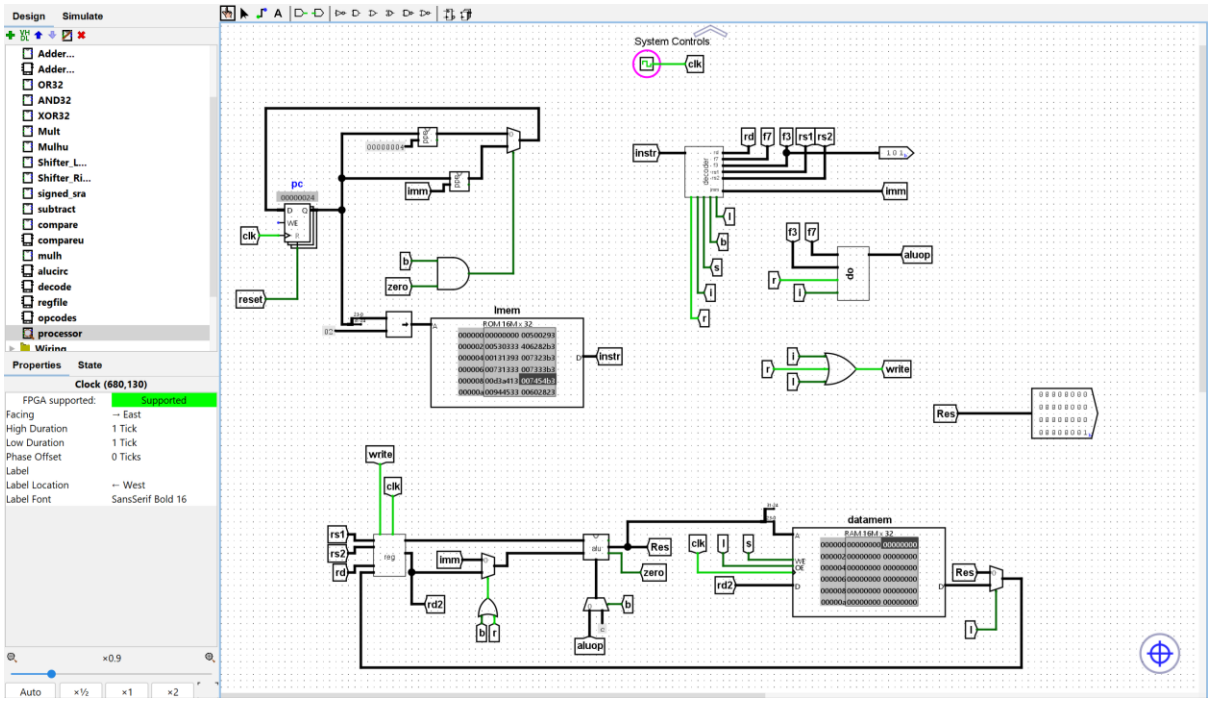
Instruction = (0x00731333) => sll x6, x6, x7



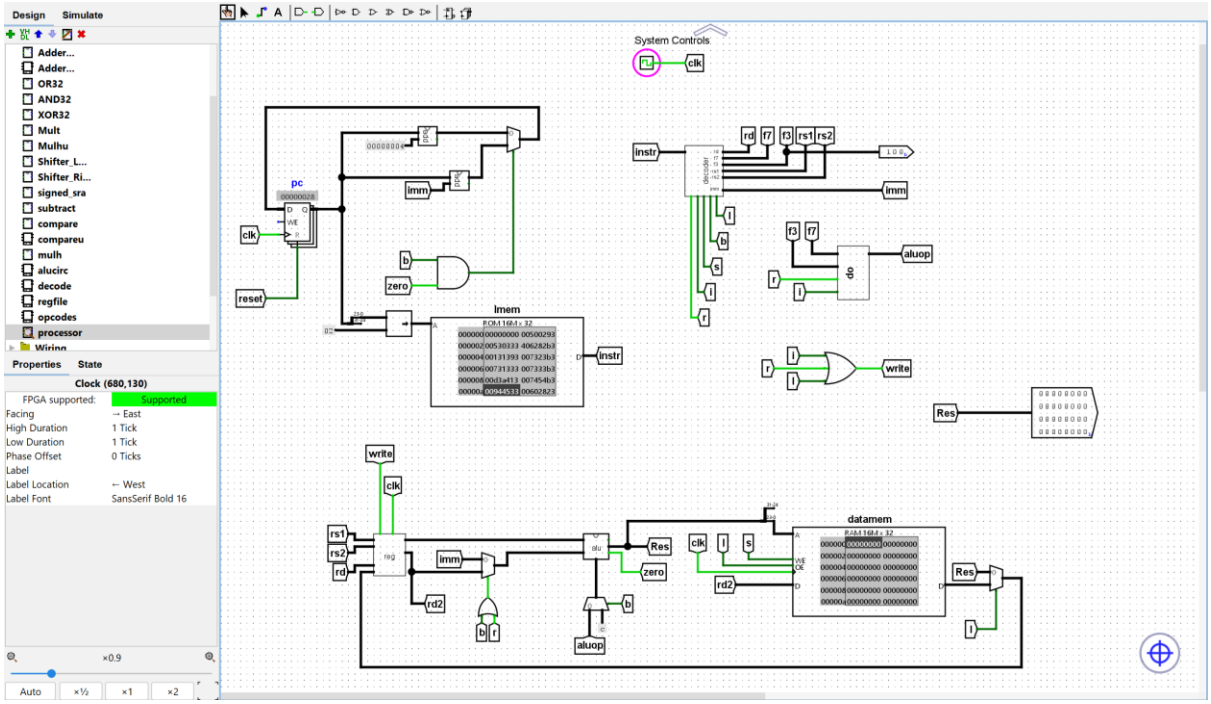
Instruction = (0x007333b3) => sltu x7, x6, x7



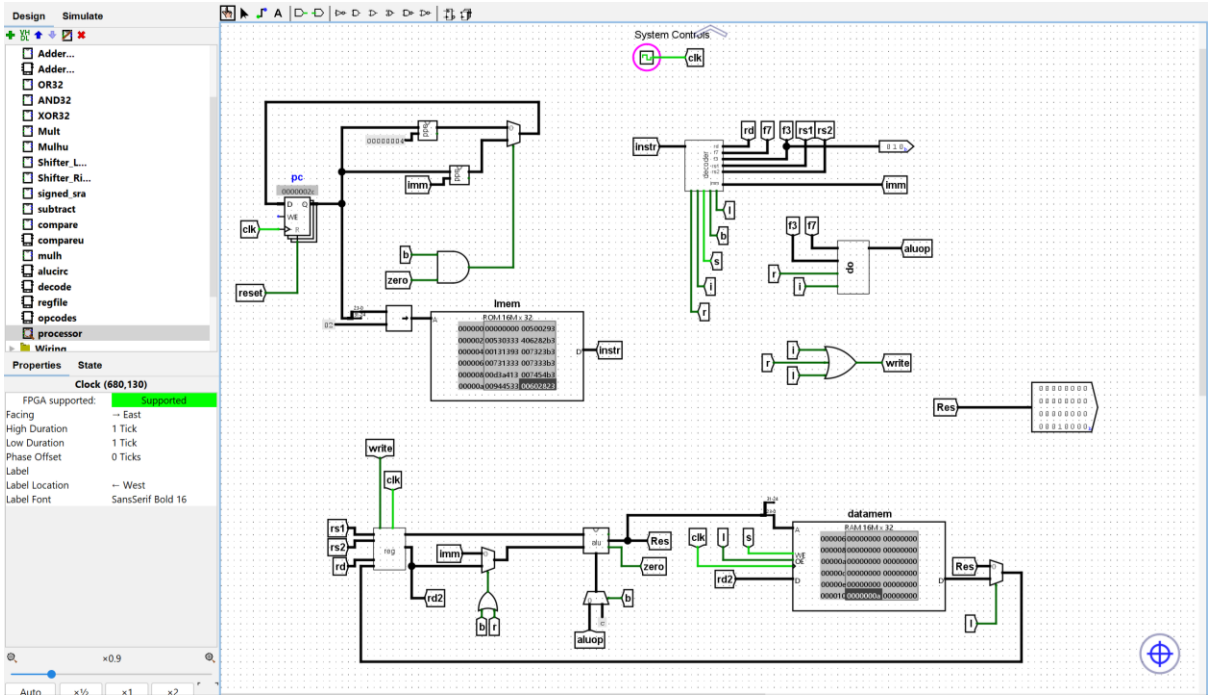
Instruction = (0x00d3a413) => slti x8, x7, 13



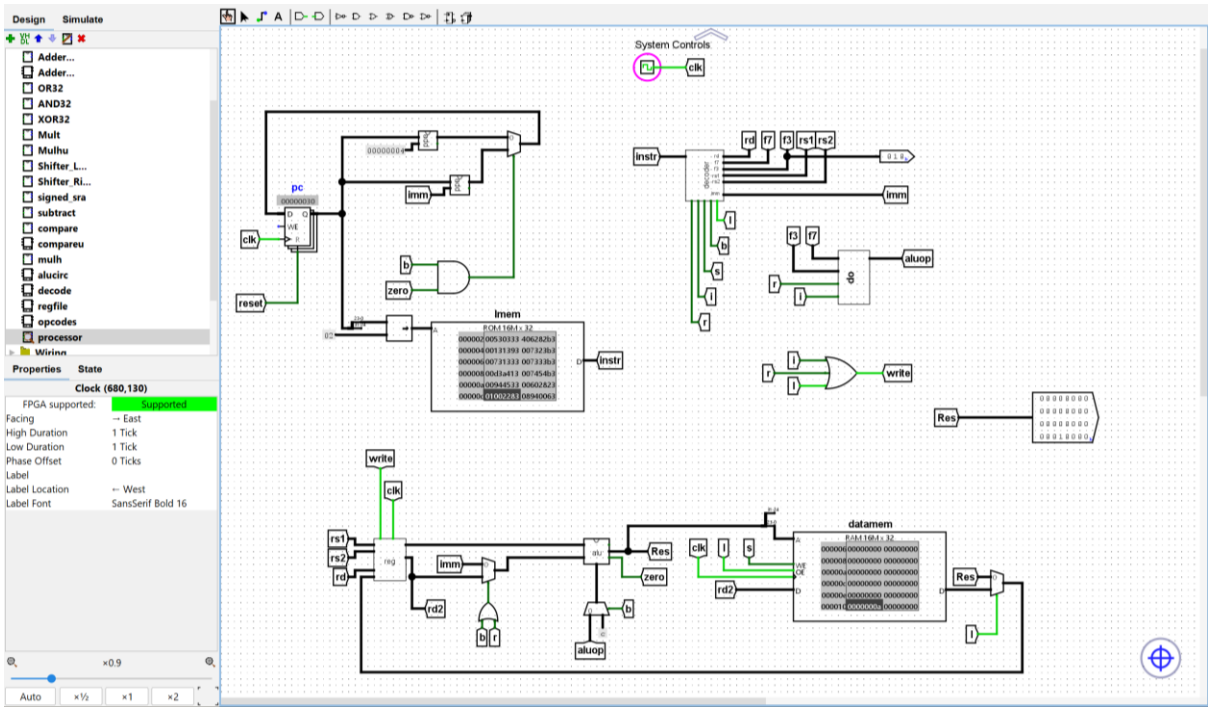
Instruction = (0x007454b3) => srl x9, x8, x7



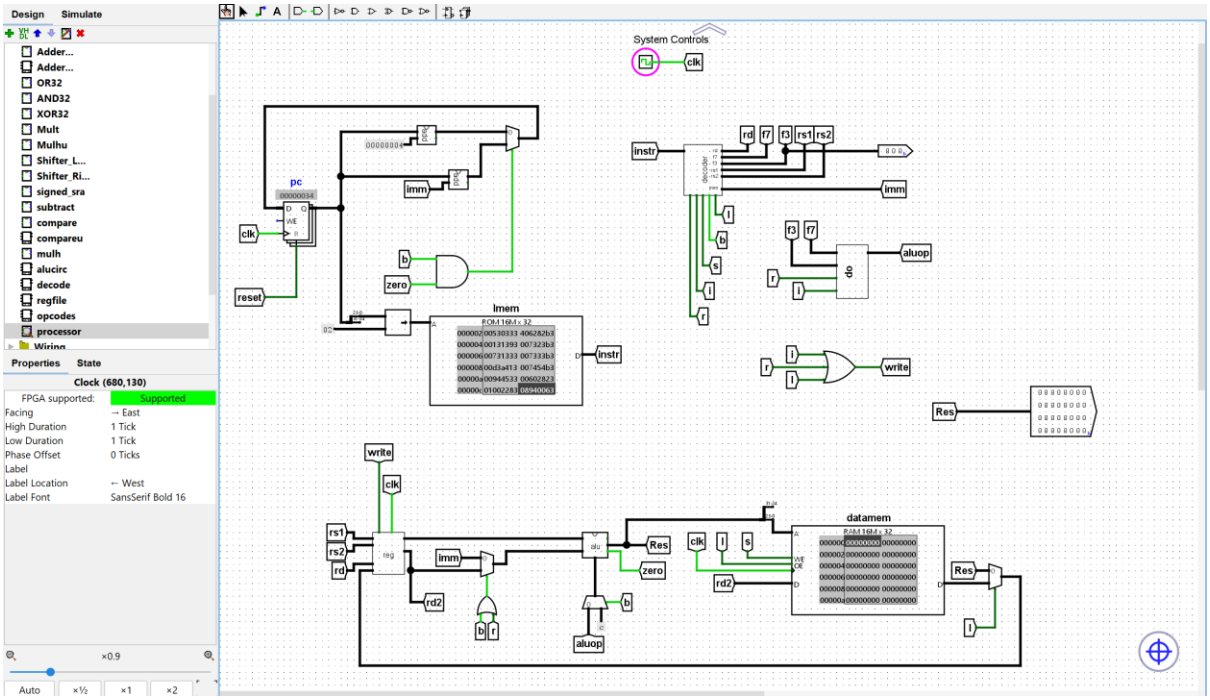
Instruction = (0x00944533) => xor x10, x8, x9



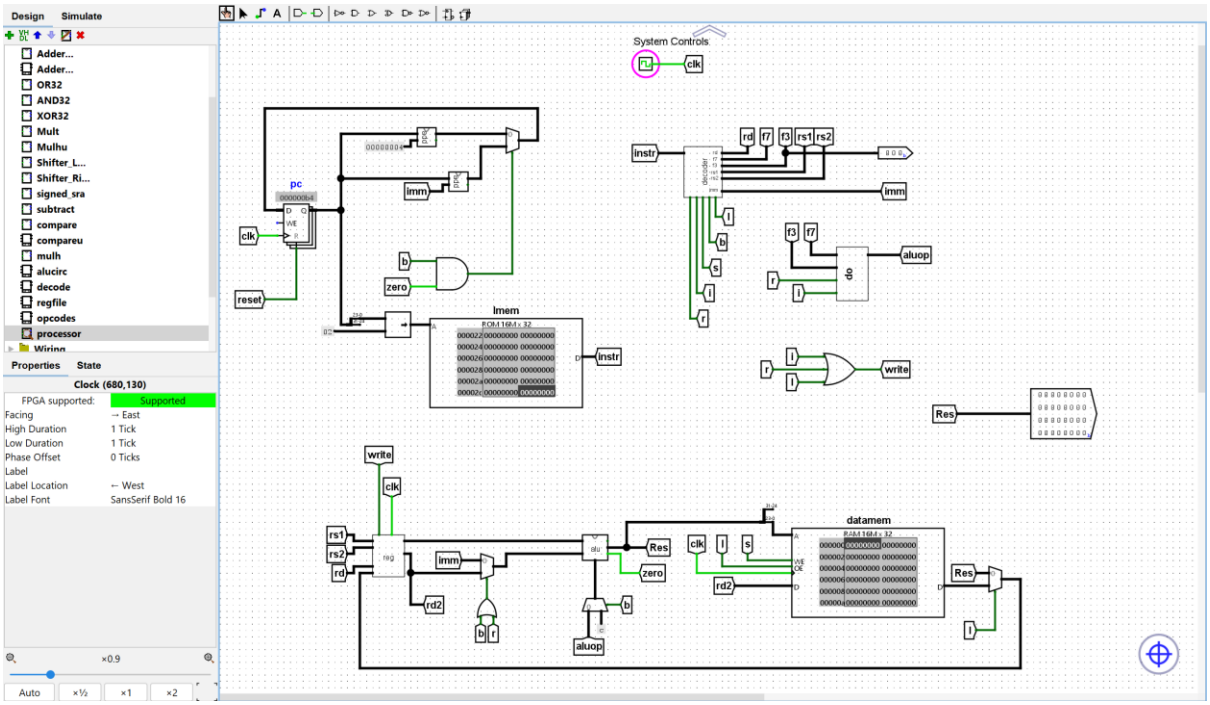
Instruction = (0x00602823) => sw x6, 16(x0)



Instruction = (0x01002283) => lw x5, 16(x0)



Instruction = (0x08940063) => beq x8, x9, 128



The program counter was earlier at 52. The beq statement adds an offset of 128, which results in the pc adding to 180. Therefore, by our design, the imem becomes 180/4 = 45 or 2d.