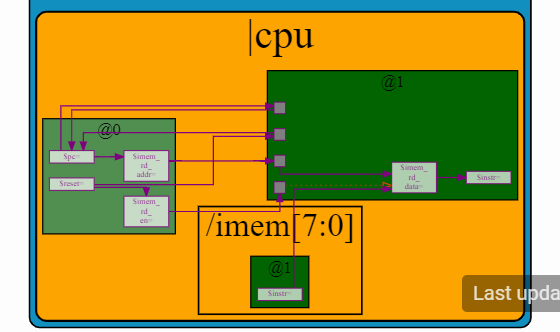
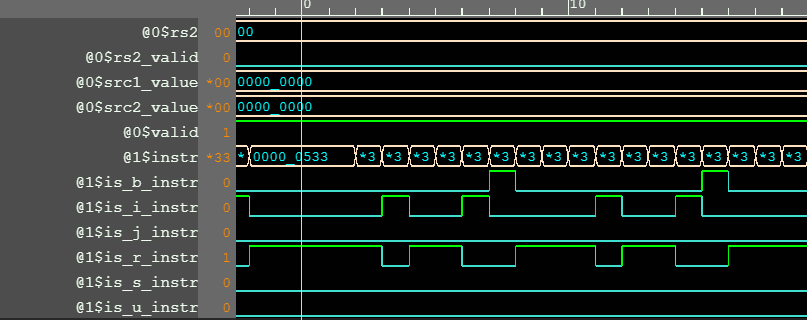


Fetch:

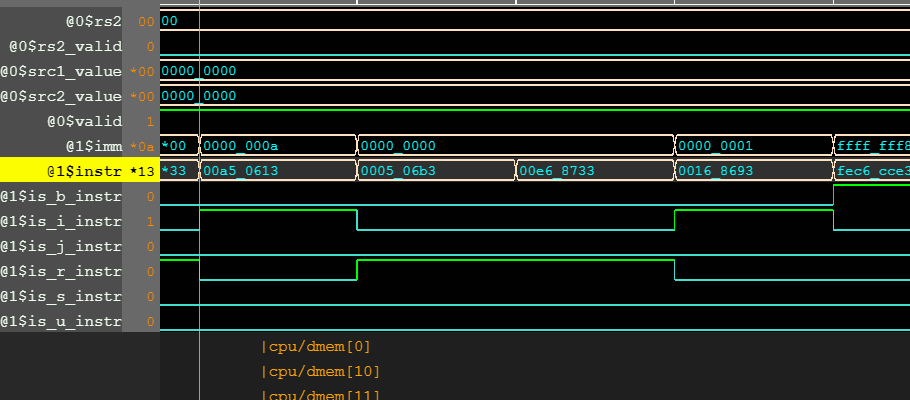


Decode:

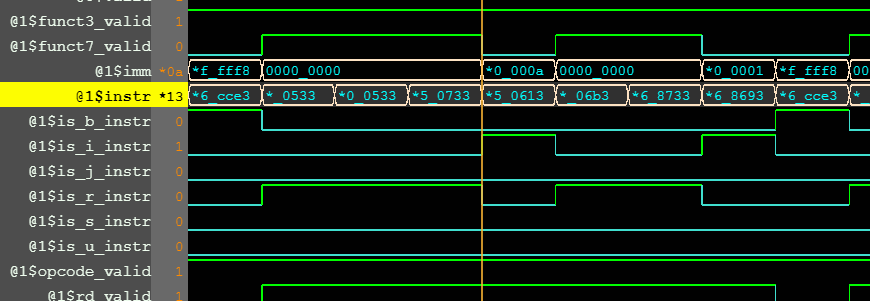
Waveform and circuit after assignment:

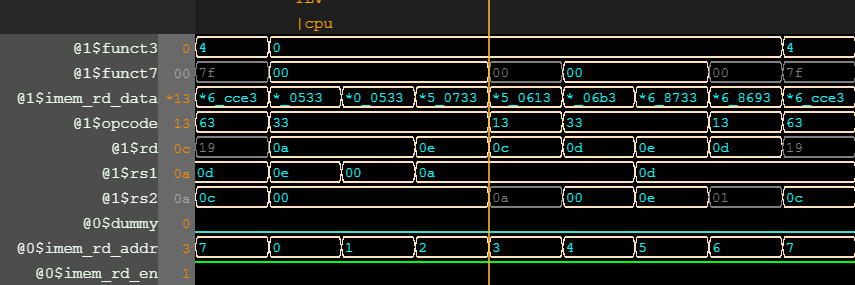


Waveform after checking imm[31:0]:

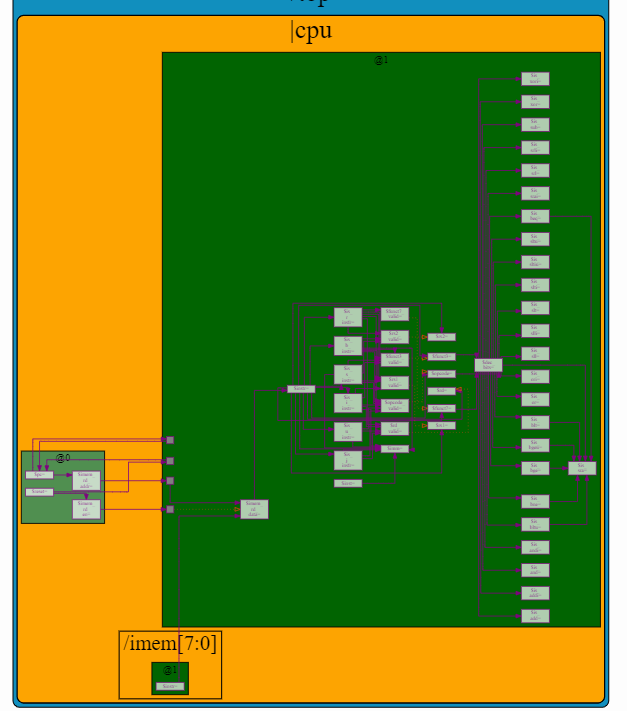
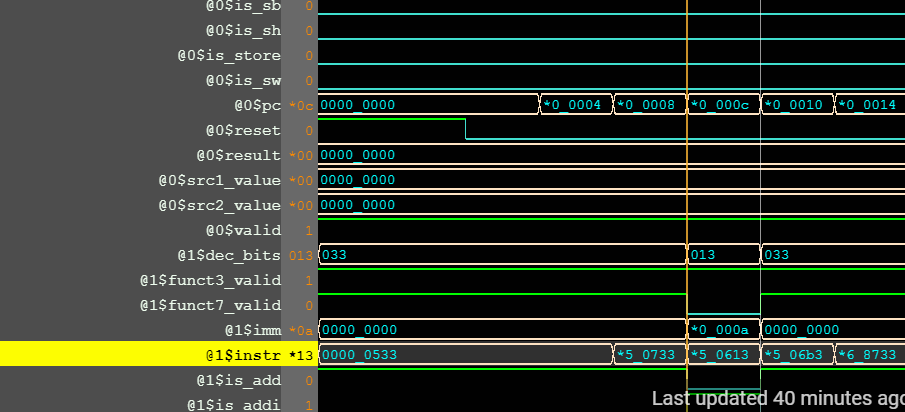


After other bits: i.e setting rd, rs1,rs2--------



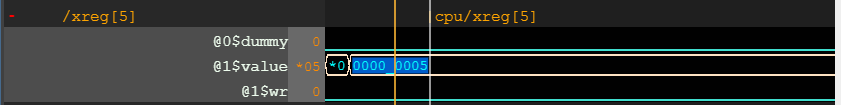
So here rd\_valid is 1 means rd should get updated its update is as below:

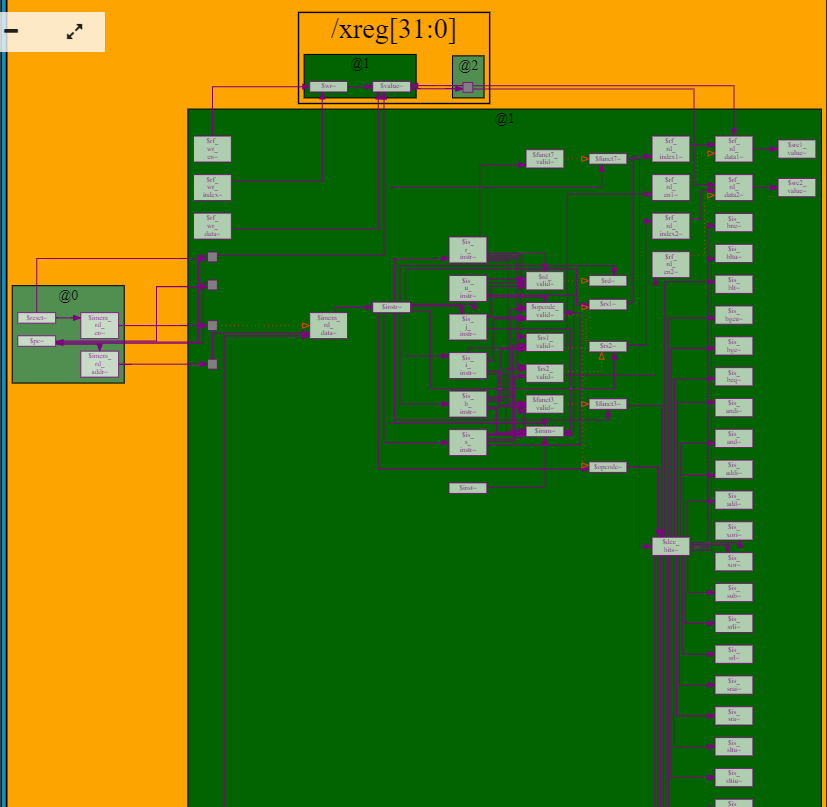
Complete decode stage [have used all the instructions here itself:

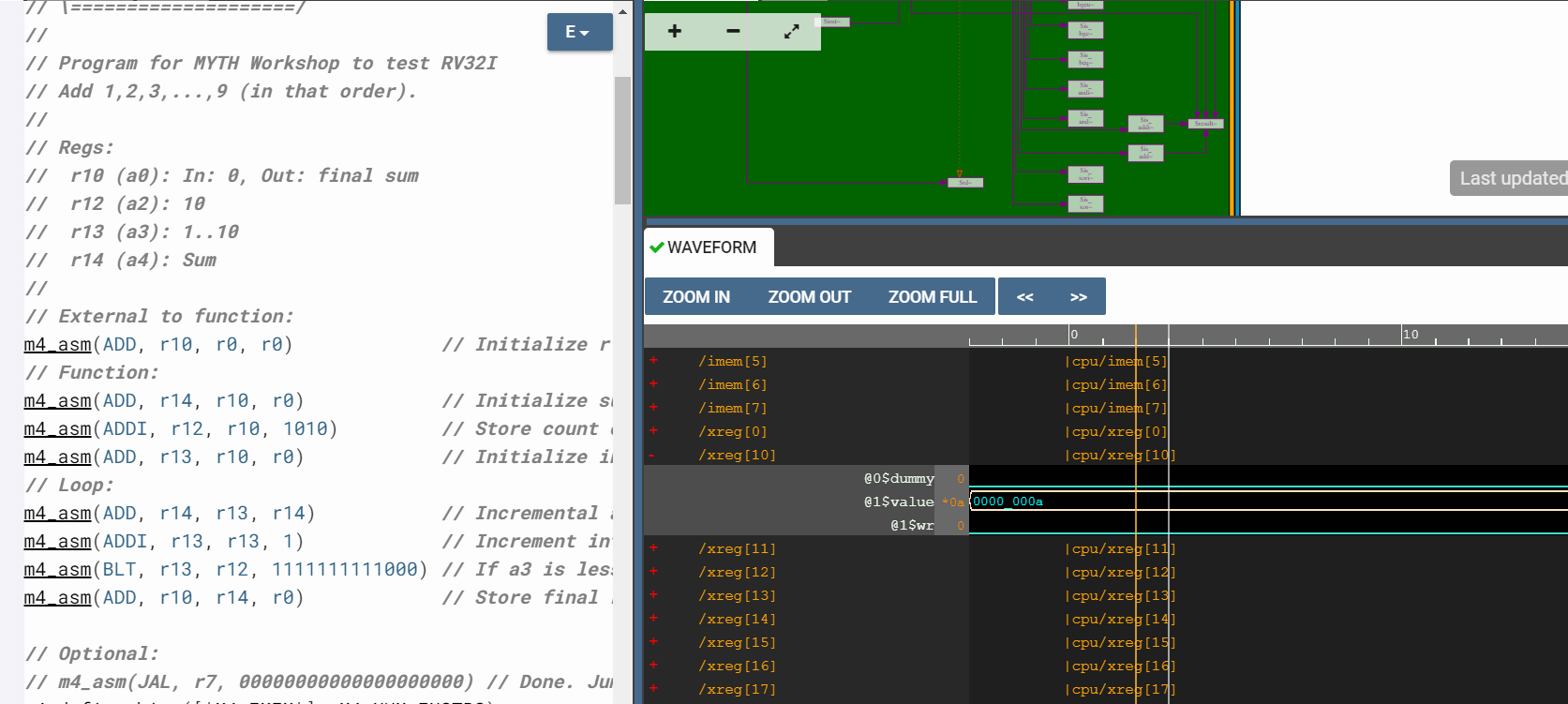
[dec\_bits updated ]

After registerfile read:

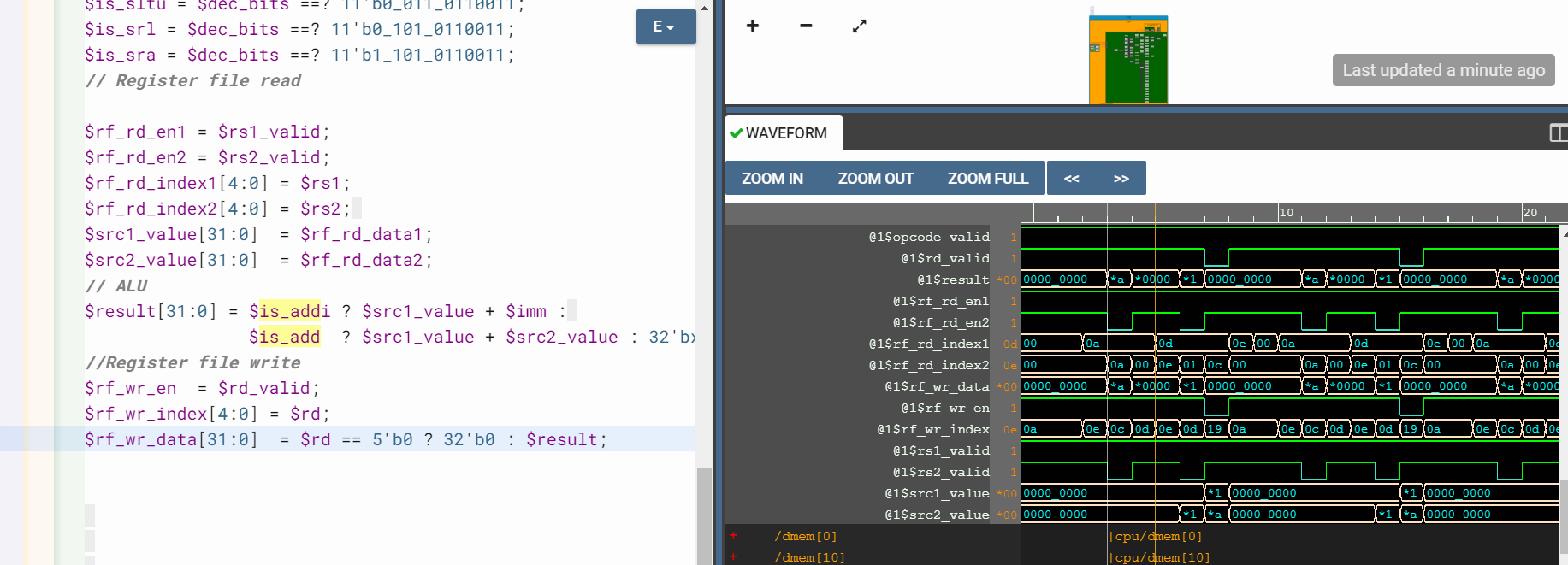




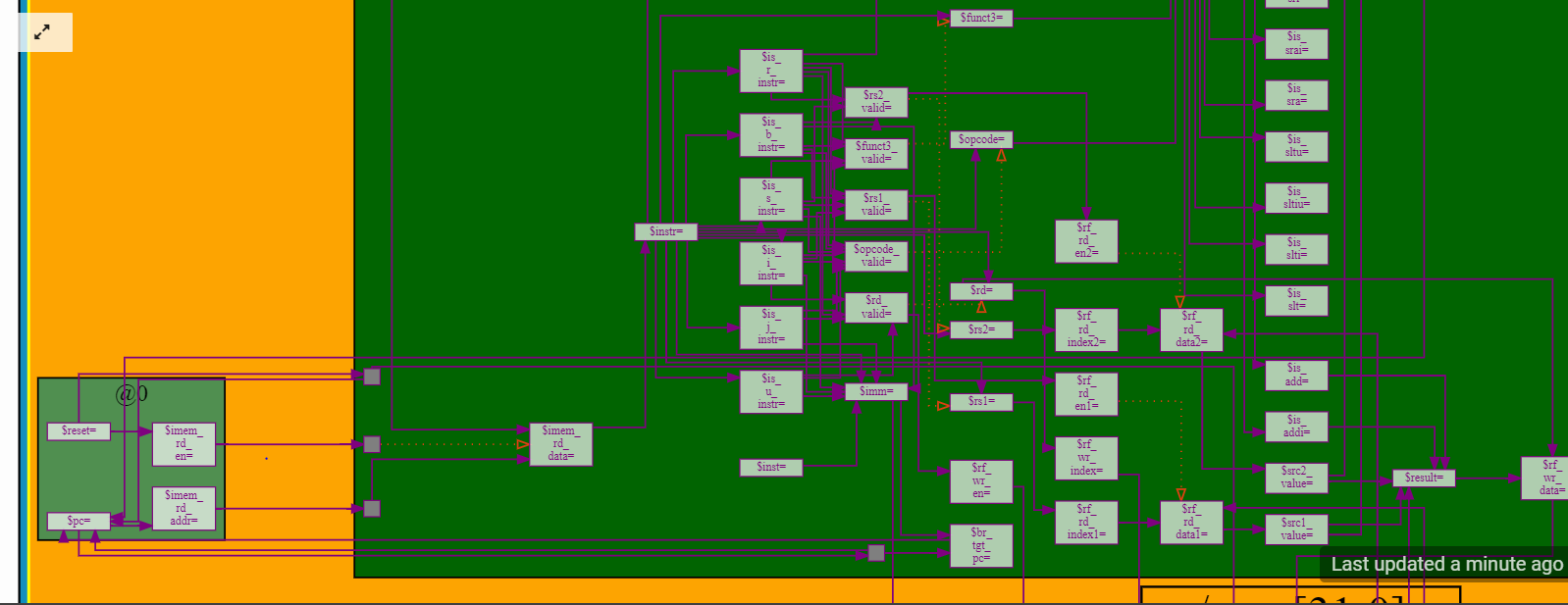
ALU :

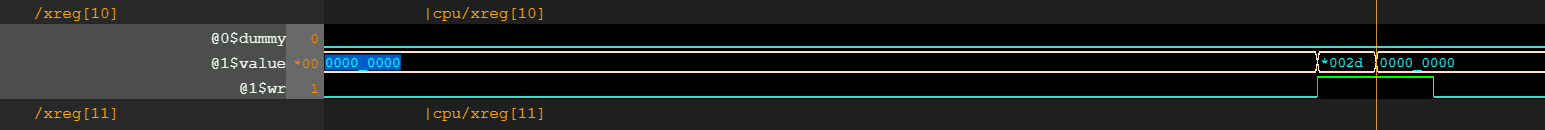


**Register file write:**



**After two stages of branching:**

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Result is 45

