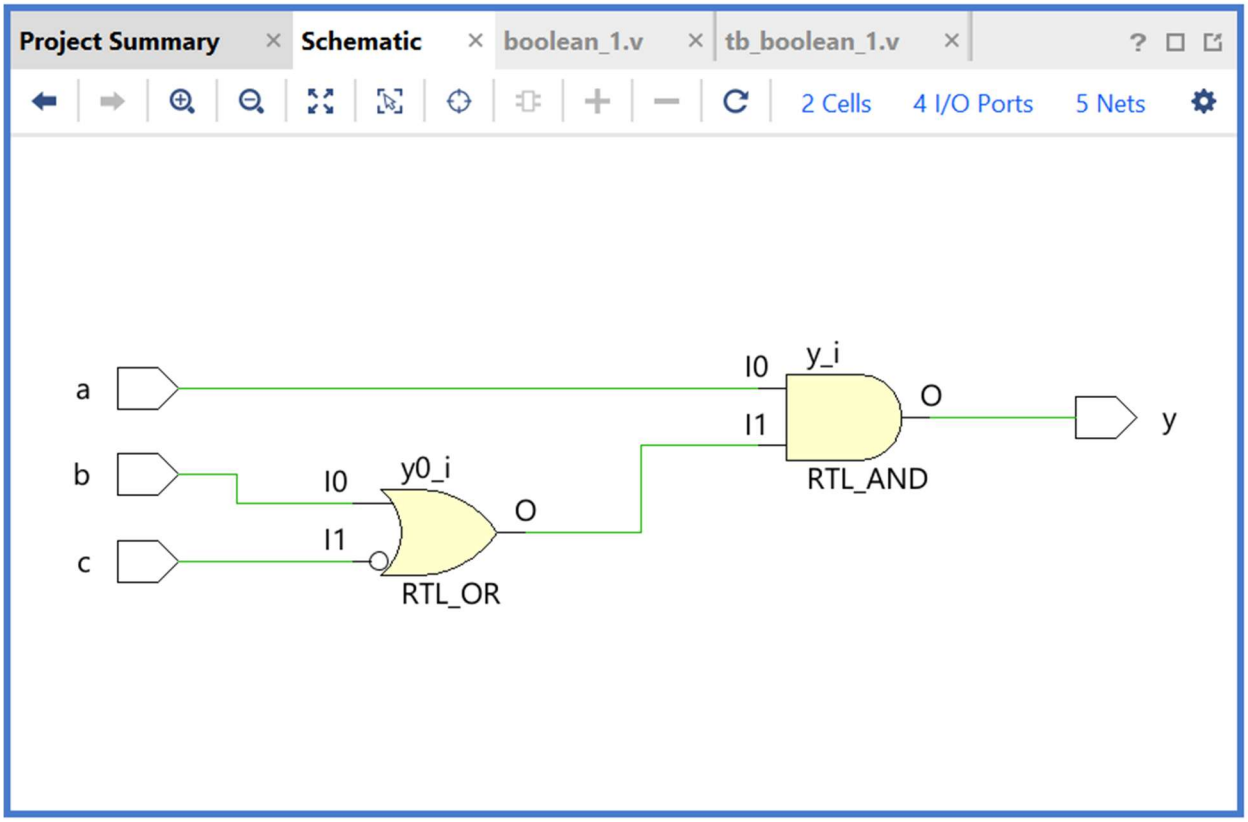
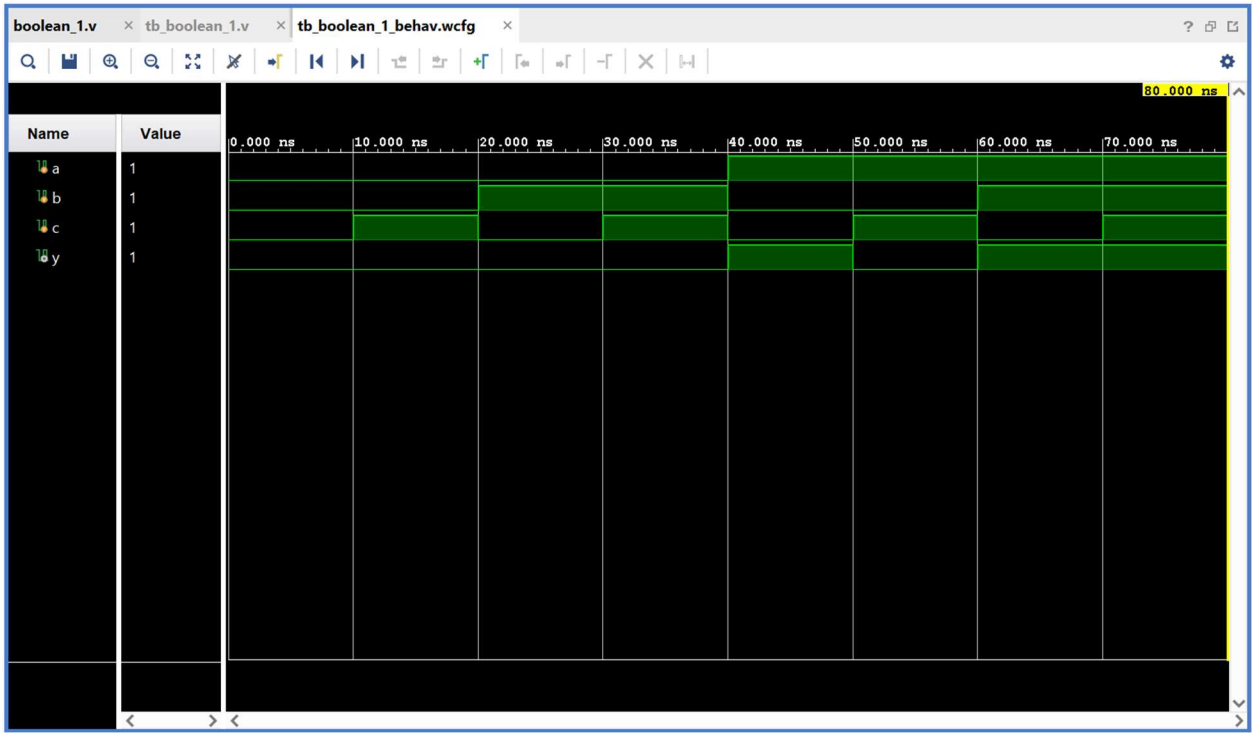
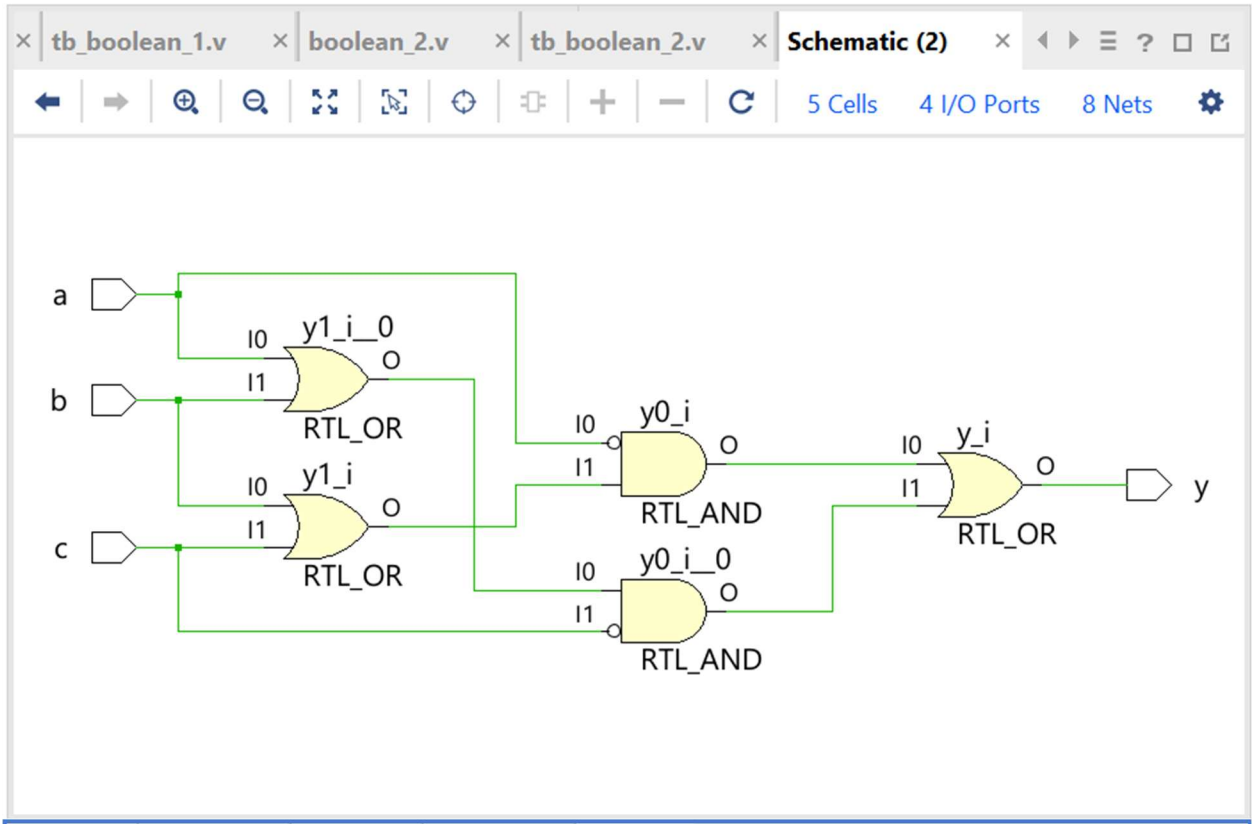
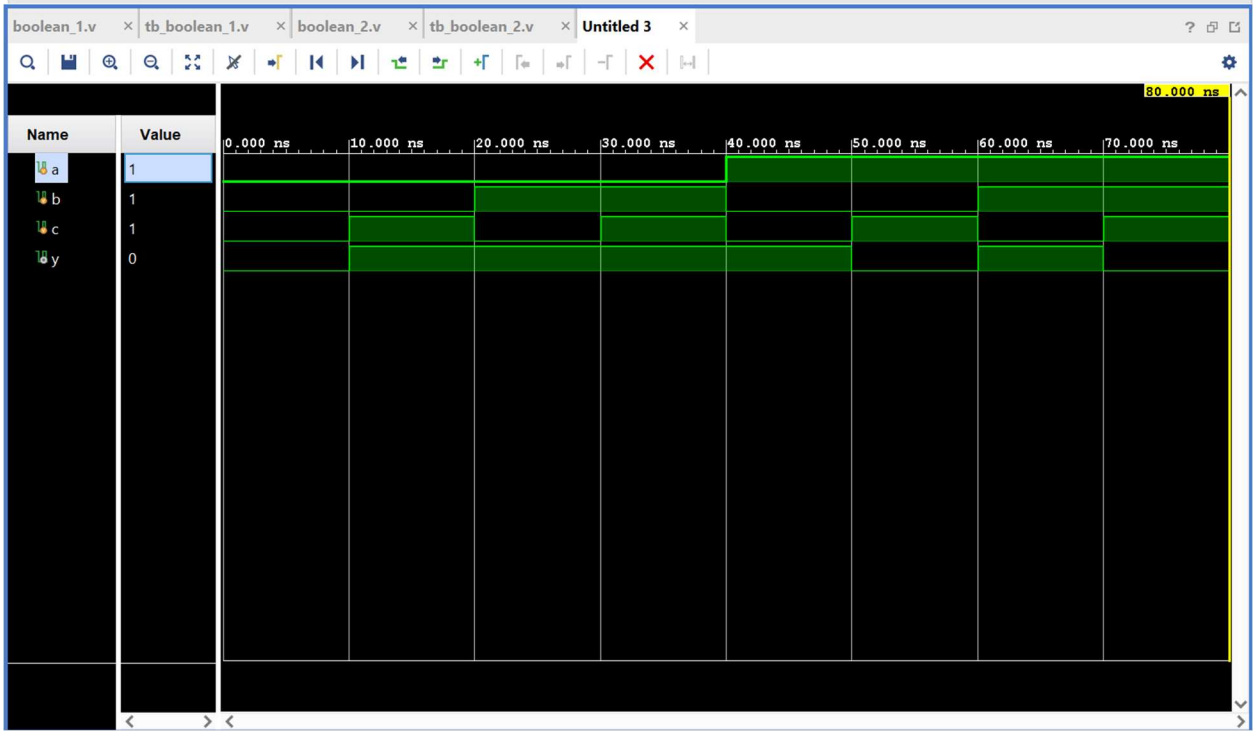
BOOLEAN 1: Y = A.(B+(~C))



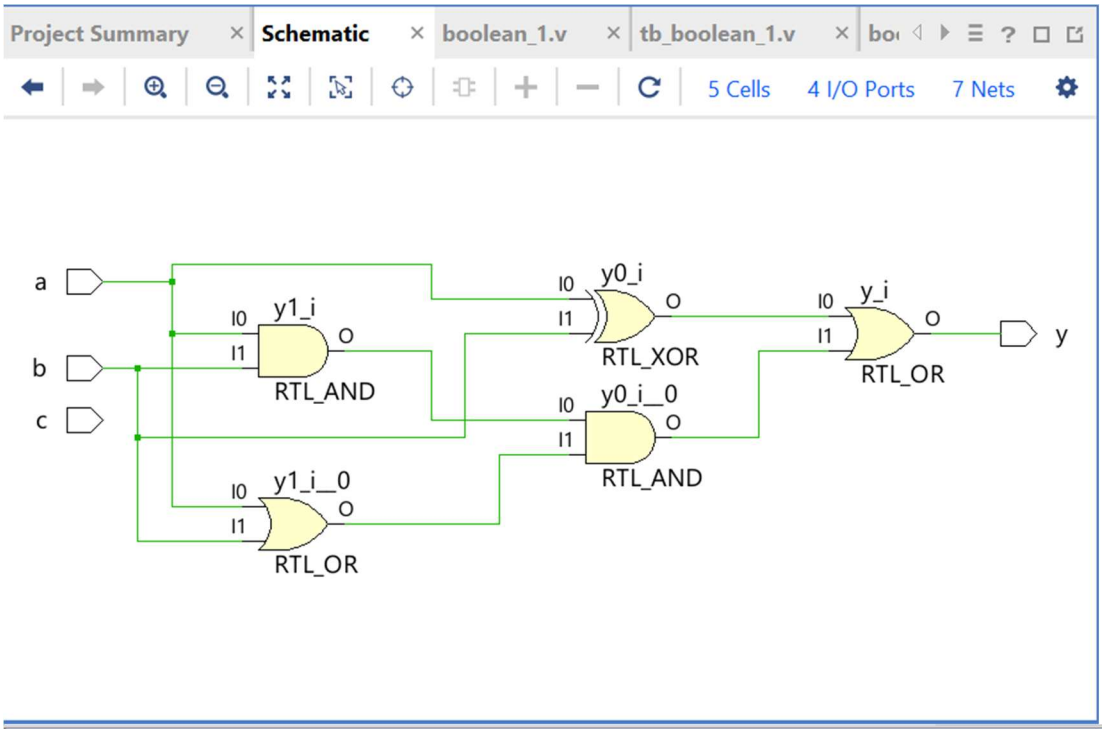


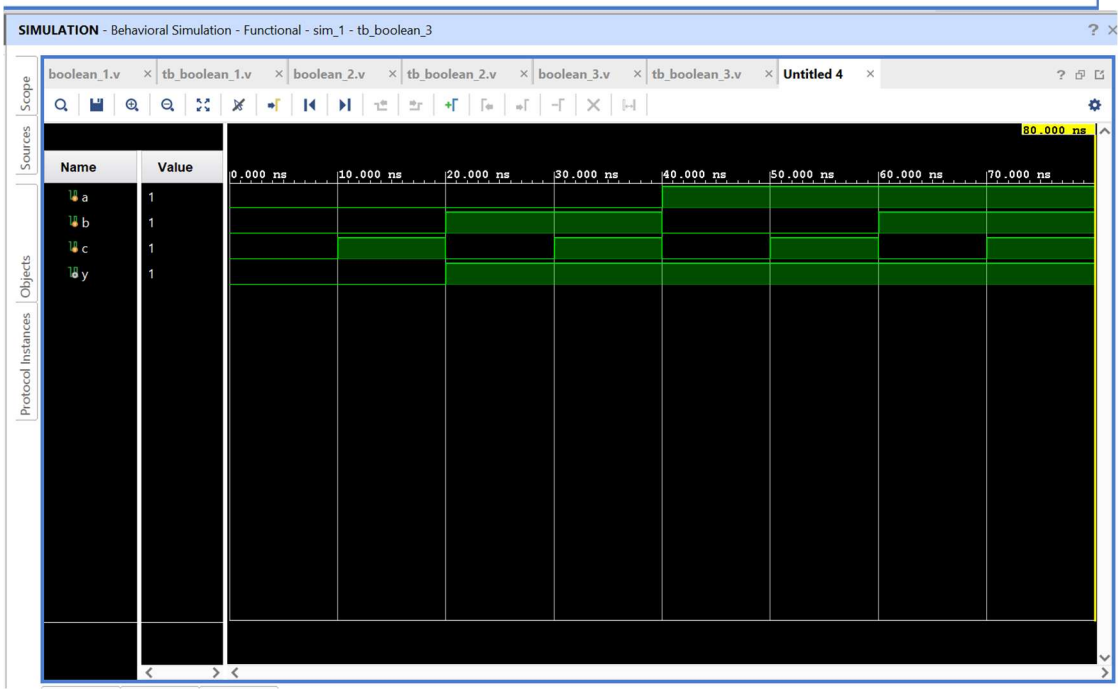
BOOLEAN 2: Y=((~A).(B+C)) + ((A+B).(~C))





BOOLEAN 3: Y = (A XOR B)+((A.B).(A+B))





If you see the simulation, ‘c’ is treated as don`t care condition because actual Boolean expression uses ‘a’ & ‘b’ as input but in code, I take ‘a’, ‘b’ and ‘c’ as inputs to show that it will not affect the circuit diagram and simulation.
But treated ‘c’ as don`t care.