Name - Gaurav Sood
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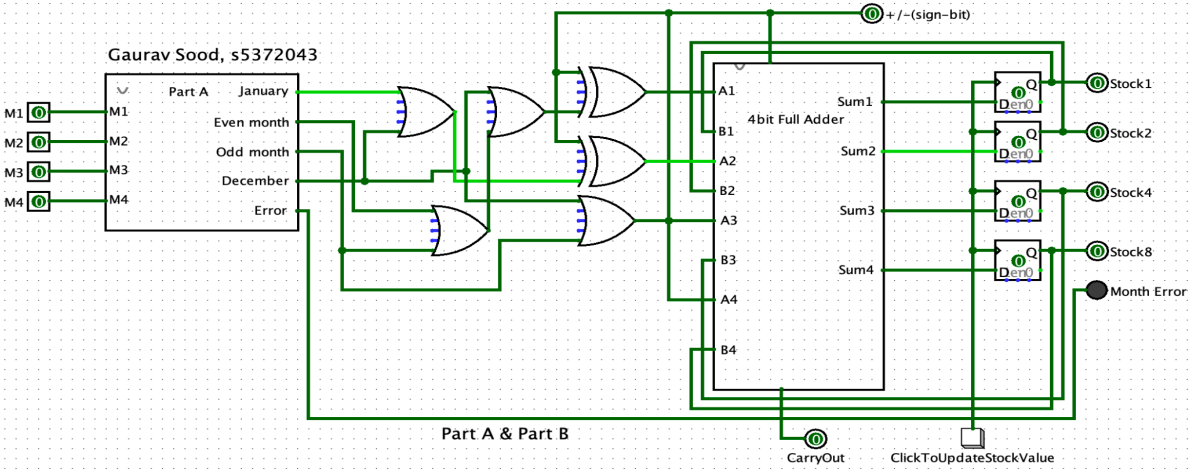
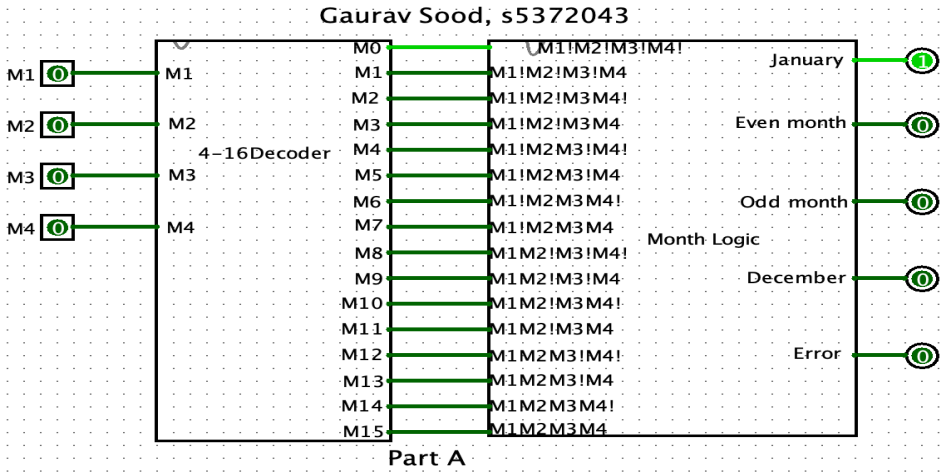
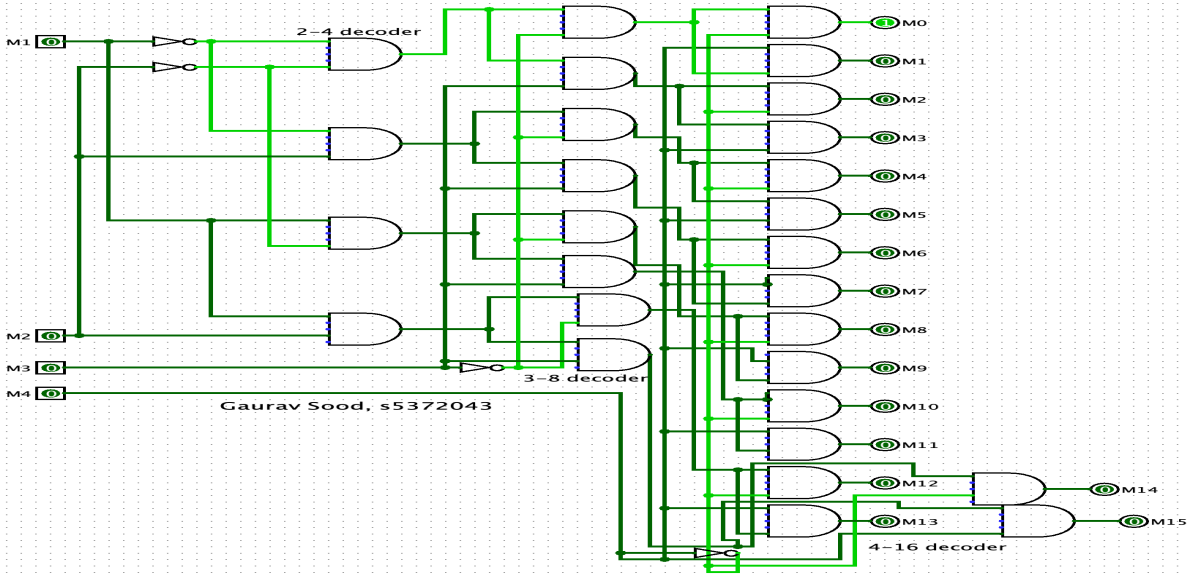






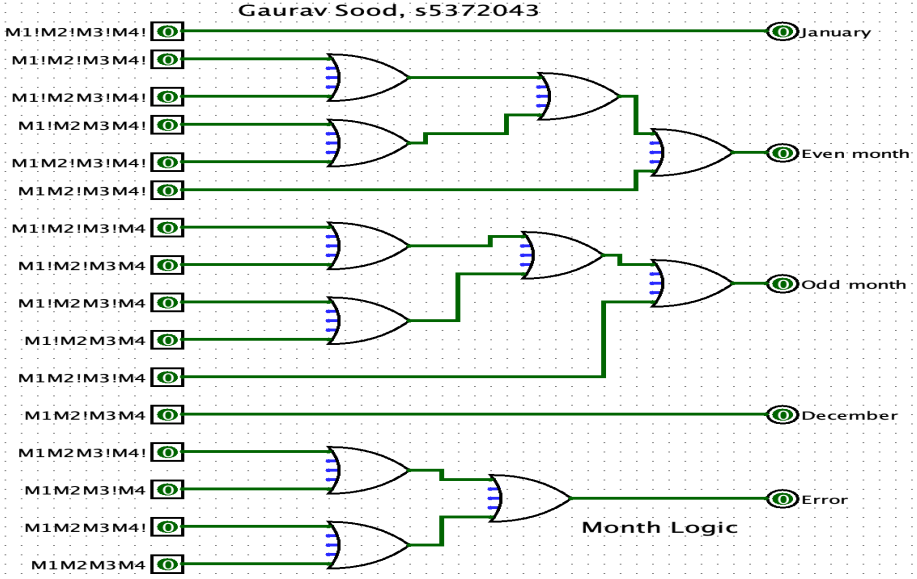
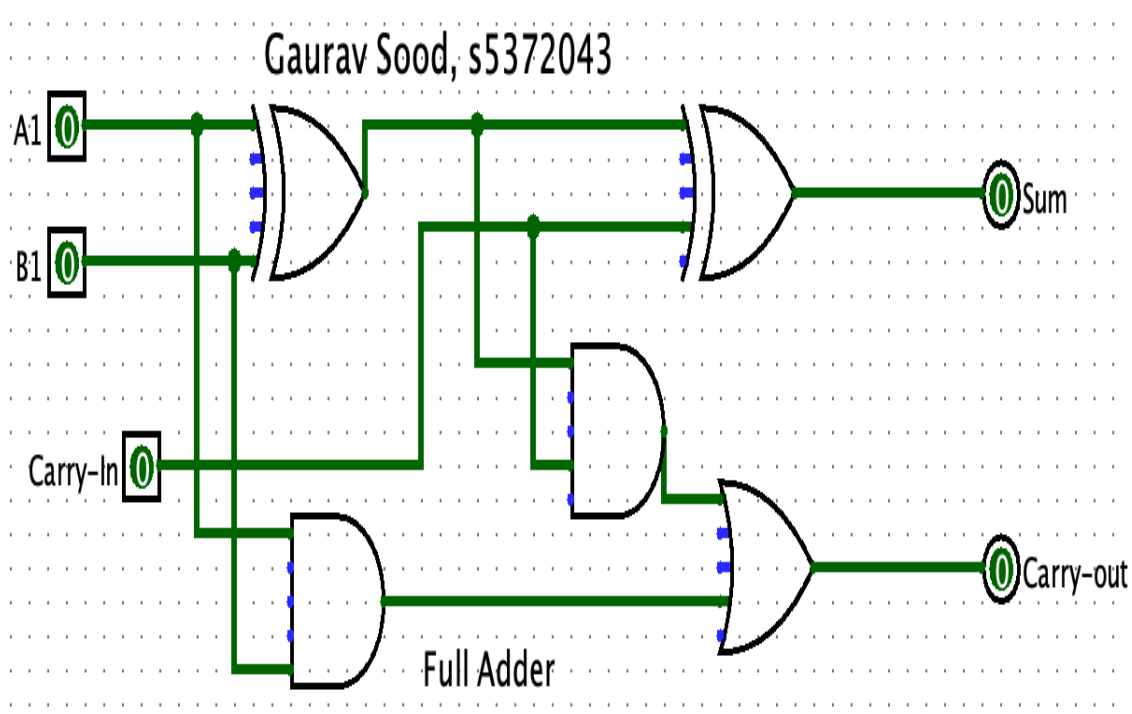
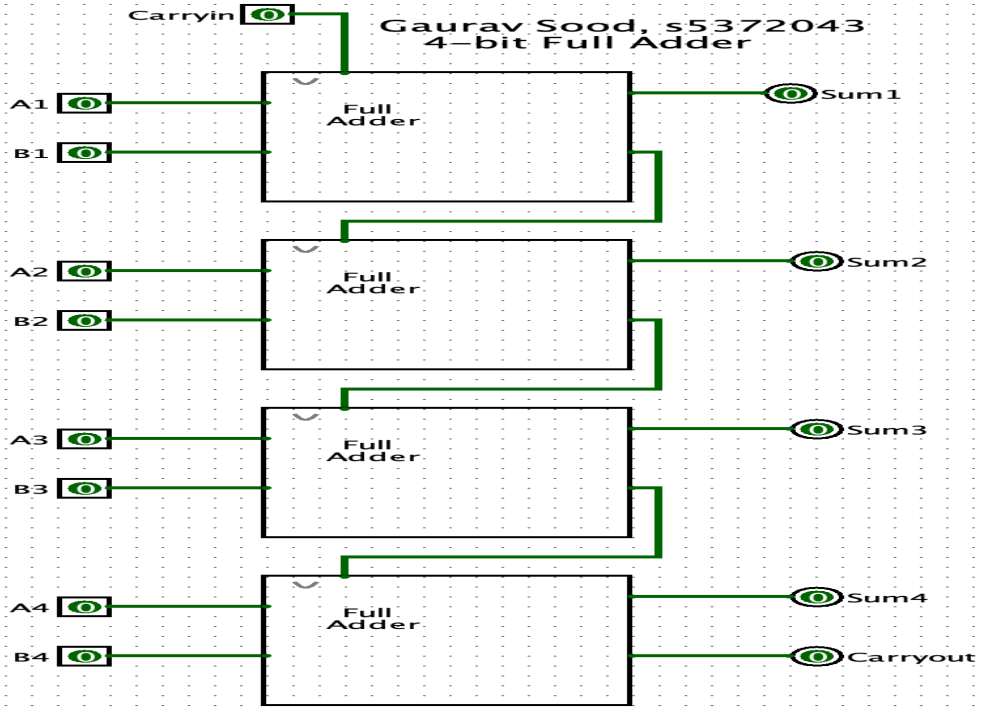


Fig1)Main Circuit(Part A & Part B), Fig2)Part A(template), Fig3) 4-16 Decoder(template), Fig4)Month Logic(template)





Description:

The main circuit is a stock calculator where a user will input M1, M2, M3 and M4 in part A of a circuit from M value to 0-15 in numbers to add/subtract according to the defined month and give an error if there is a month error. Part A consists of two templates 4-16 decoder and a month logic where the outputs from the 4-16 decoder act as input for the month logic. Inside the month logic, the same month number is grouped with the help of an OR gate to give 5 outputs i.e. January, EvenMonth, OddMonth and Error. The outputs from part A act as inputs for part B 4-bit full adder except for the error line which is connected to an Led to display month error. The outputs from Part A i.e January, EvenMonth, OddMonth and December are connected to the different gates because we want the adder to do +2,+1,-1,-3 operations depending on the month entered by the user and then connected to the 4-bit full adder. The SignBit is connected to the output of the OR gate of OddMonth and December because whenever there is a subtraction a '1' is added in the full adder. The d-latch stores the stock value, where each output line is again connected to the 4-bit full adder to add the previous stock value. The value of the stock value is updated with the help of a button, whenever the clock value is high the value gets updated in the d-latch which shows the stock value. The final outputs are Stock1, Stock2, Stock4 and Stock8 which represent decimal numbers from 0-15.

Fig 5)Full Adder(template), Fig 6)4-bit Full Adder(template)