

Thursday Reading Assessment: Chapters 4-5

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1 Logic Circuits, Boolean Algebra, and Karnaugh Maps

1. (a) Write the boolean expression for the circuit in Fig. 1. (b) Convert the expression to S-SOP form, using $X + \bar{X} = 1$. What is the domain number? (c) Create the 4-input Karnaugh map, and fill in the **True** states. (d) Use the Karnaugh map to find the simplest logical expression for X . (e) Design the simplified circuit below.

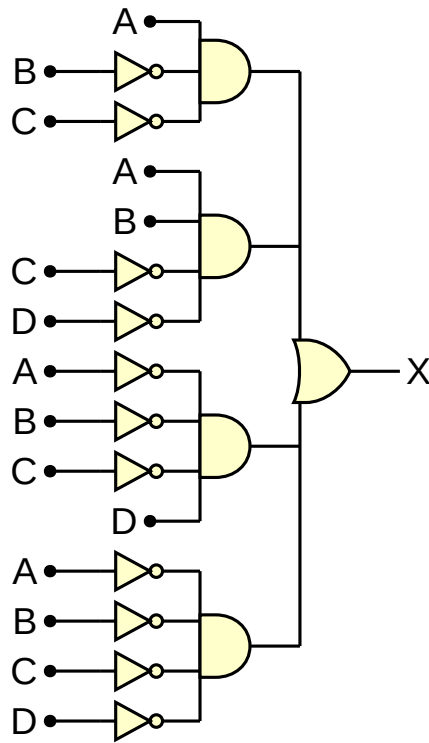


Figure 1: What is the *simplest* expression for the output?