WORCESTER POLYTECHNIC INSTITUTE
ELECTRICAL AND COMPUTER ENGINEERING
ECE2029 INTRODUCTION TO DIGITAL CIRCUIT DESIGN
FALL-B-2024

Preliminary work for Experiment 1

1) Write a Verilog code to implement an alarm system using basic logic functions. This alarm system has 3 inputs;
   - Door Open Sensor (**C**)
   - Motion Sensor (**B**)
   - Arm(Enable) Alarm (**A**)

   And one output;
   - Alarm (**Z**)

   Boolean expression of alarm system is: **Z = (B + C) * A**

   Draw the logic circuit by hand, show the truth table and implement in Verilog. Test your design by creating a test bench.

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