ECE 27000 Spring-22
Practice Problems 3

Note: The problems below will allow you to practice the material covered in week 3. A homework will be available separately. Do not attempt to submit practice problems for grading.

Solve the following problems considering the function
$F(W, X, Y, Z) = W' \cdot X + X \cdot Y + W \cdot (X' + Z')$.

1. Use DeMorgan's theorem to write an expression for $F'(W, X, Y, Z)$

2. Use the theorems of switching algebra to simplify $F'(W, X, Y, Z)$.
   You should be able to show that
   $F'(W, X, Y, Z) = W \cdot X \cdot Y' \cdot Z + W' \cdot X'$

3. Define $G(W, X, Y, Z) = F'(W, X, Y, Z)$. Compute $G'(W, X, Y, Z)$, simplify it, and show that it is equal to $F(W, X, Y, Z)$.