**CSC 244 Fall 2022 Homework 2**

**Boolean Algebra, Sum-of-Products, and Product-of-Sums**

**Due: Wednesday, Sept. 7 before 9am to D2L**

|  |  |  |
| --- | --- | --- |
| a) | b) | c) |
| |  |  |  | | --- | --- | --- | | A | B | Y | | 0 | 0 | 0 | | 0 | 1 | 1 | | 1 | 0 | 1 | | 1 | 1 | 1 | | |  |  |  |  | | --- | --- | --- | --- | | A | B | C | Y | | 0 | 0 | 0 | 0 | | 0 | 0 | 1 | 1 | | 0 | 1 | 0 | 1 | | 0 | 1 | 1 | 1 | | 1 | 0 | 0 | 1 | | 1 | 0 | 1 | 0 | | 1 | 1 | 0 | 1 | | 1 | 1 | 1 | 0 | | |  |  |  |  | | --- | --- | --- | --- | | A | B | C | Y | | 0 | 0 | 0 | 0 | | 0 | 0 | 1 | 1 | | 0 | 1 | 0 | 0 | | 0 | 1 | 1 | 0 | | 1 | 0 | 0 | 0 | | 1 | 0 | 1 | 0 | | 1 | 1 | 0 | 1 | | 1 | 1 | 1 | 1 | |

1. For the above truth tables
   1. Write in sigma notation
   2. Write in canonical sum-of-products form
   3. Draw the schematic for (b)
2. For the above truth tables
   1. Write in Pi notation
   2. Write in canonical product of sums form
   3. Draw the schematic for (a)
3. For truth table c minimize using Boolean algebra theorems. Label each theorem/step used.
   1. Draw the schematic
   2. Compare the cost to the canonical form