# **CS-230 - Homework Week 1 - Chapter 2**

1. What is a transistor? Small device to control flow of electrons.
2. Write the Boolean Logic expression for the following diagram: (X and Y) Nor Z

A diagram of a circuit

Description automatically generated

1. Write the truth table for the expression/circuit from question 2.

X Y Z B C

0 0 0 0 1

0 0 1 0 0

0 1 0 0 1

0 1 1 0 0

1 0 0 0 1

1 0 1 0 0

1 1 0 1 0

1 1 1 1 0

1. Draw a circuit that represents this Boolean Logic: (((not X) nand Y) nor Z)

A

X B



OUT



Y Z

1. Write the truth table for the expression/circuit from question 4.

X Y Z A B OUT

0 0 0 1 1 0

0 0 1 1 1 0

0 1 0 1 1 0

0 1 1 1 1 0

1 0 0 0 0 1

1 0 1 0 0 0

1 1 0 0 0 0

1 1 1 0 1 0