1 (Modified Problem 36, page 44 of Dr. Eccles’ book)

(a) Design minimal NAND-NAND logic to produce \( X=1 \) if the binary number \( AB>CD \), 
\( Y=1 \) if \( AB=CD \).

(b) Design minimal NOR-NOR logic to produce \( Z=1 \) if \( AB<CD \).