

Assignment 2

Submission Link Sectio 01: [Here](#)

Submission Link Sectio 02: [Here](#)

1. **Simplify** the following boolean expression: $(A + B)(A+B)(A+C)$
2. **Find** the complement of the following expression:
 $(x' + y + z')(x' + y')(x + z')$
3. **Draw** the following functions using NAND gates only:
 $F(A,B,C,D) = (A'B'CD' + A'D + (B+D'))$
NB: You can't simplify the above function. You have to draw based on the function given in question.
4. **Draw** the following functions using NOR gates only:
 $F(A,B,C,D) = (AB'C'D' + AD + (B+D'))$
NB: You can't simplify the above function. You have to draw based on the function given in question.
Find out SOP and POS for the following: (Do not use truth table)
5. $F(A,B,C) = AB+BC'$
6. $F(A,B,C,D) = A+ B'CD'$
7. $F(A,B,C,D,E) = AB+CDE$
8. **Simplify** the following boolean equation using the laws of boolean algebra and implement the simplified function using only NOR gates:
 $F(a,b,c,d) = \sum(8, 9, 10, 11, 13, 15)$
Simplify the following boolean equation using the laws of boolean algebra and implement the simplified function using only NAND gates:
9. $F(a,b,c,d) = \sum(8, 9, 0, 11, 7, 15)$
10. $F(a,b,c,d) = \sum(5, 8, 9, 12, 15)$