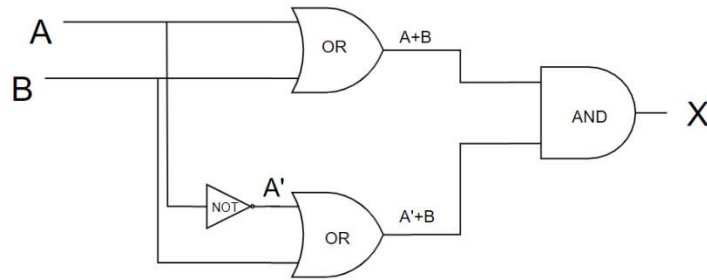


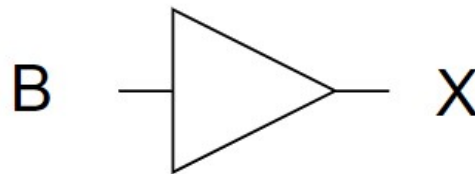
Akhmad Rizki Prayoga

1801020011

- $X = (\bar{A} + B)(A + B)$
 $X = B(\bar{A} + A)$
 $X = B.1 = B$

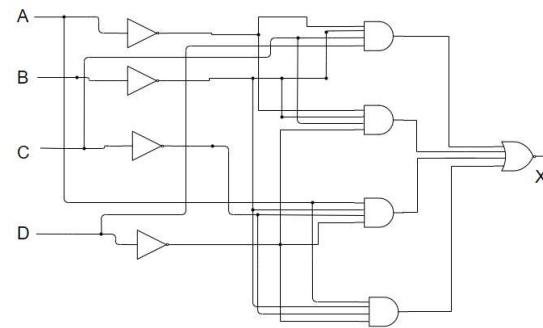


Sebelum Penyederhanaan 1

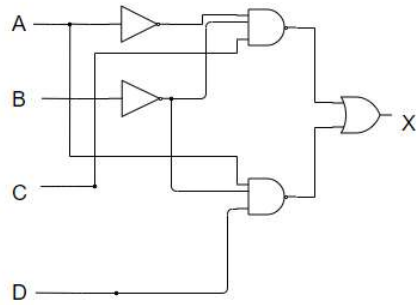


Setelah Penyederhanaan 1

- $X = \bar{A}\bar{B}CD + \bar{A}\bar{B}C\bar{D} + \bar{A}\bar{B}\bar{C}D + \bar{A}\bar{B}\bar{C}\bar{D}$
 $X = \bar{B}(\bar{A}CD + \bar{A}C\bar{D} + \bar{A}\bar{C}D + \bar{A}\bar{C}\bar{D})$
 $X = \bar{B}(\bar{A}(CD + C\bar{D}) + \bar{D}(A\bar{C} + AC))$
 $X = \bar{B}(\bar{A}(C(D + \bar{D})) + D(A(\bar{C} + C)))$
 $X = \bar{B}(\bar{A}(C.1) + D(A.1))$
 $X = \bar{B}(\bar{A}C + AD)$
 $X = \bar{A}\bar{B}C + A\bar{B}D$

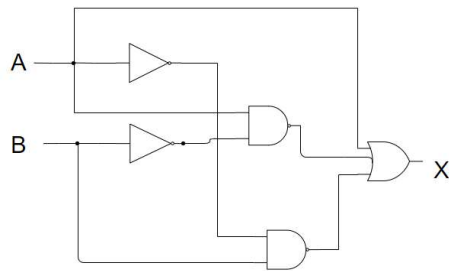


Sebelum Penyederhanaan 2

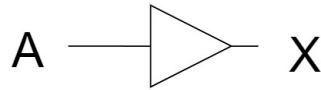


Setelah Penyederhanaan 2

3. $X = A + A\bar{B} + \bar{A}B$
 $X = A(1 + \bar{B} + B)$
 $X = A.1 = A$

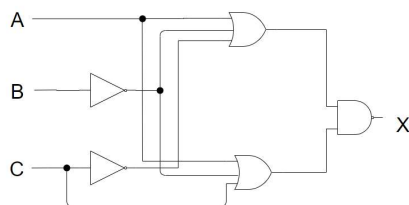


Sebelum Penyederhanaan 3

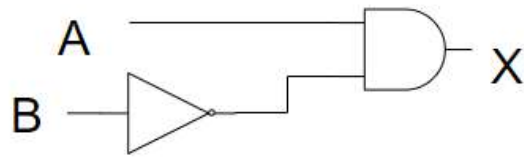


Setelah Penyederhanaan 3

4. $X = (A + \bar{B} + \bar{C})(A + \bar{B} + C)$
 $X = AA + A\bar{B} + AC + A\bar{B} + \bar{B}\bar{B} + \bar{B}C + A\bar{C} + \bar{B}\bar{C} + C\bar{C}$
 $X = A + A\bar{B} + AC + A\bar{B} + \bar{B} + \bar{B}C + A\bar{C} + \bar{B}\bar{C} + 0$
 $X = A + A\bar{B} + AC + A\bar{C} + \bar{B} + \bar{B}C + \bar{B}\bar{C} +$
 $X = A(1 + \bar{B} + C + \bar{C}) + \bar{B}(1 + C + \bar{C})$
 $X = A.1 + \bar{B}.1 = A + \bar{B}$

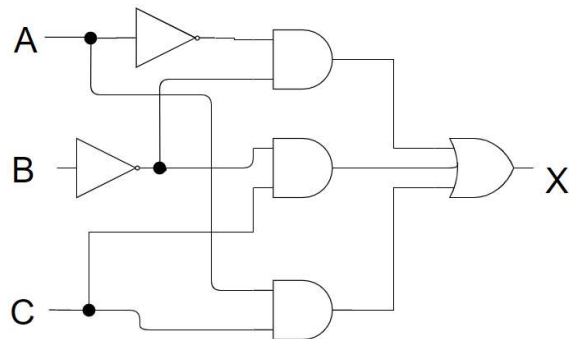


Sebelum Penyederhanaan 4

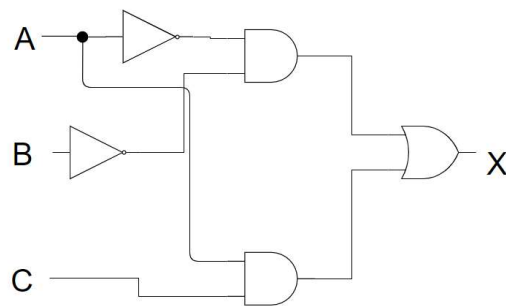


Setelah Penyederhanaan 4

5. $X = A\bar{B} + \bar{B}C + \bar{A}C$
 $X = A\bar{B}(C + \bar{C}) + \bar{B}C(A + \bar{A}) + \bar{A}C(B + \bar{B})$
 $X = A\bar{B}C + A\bar{B}\bar{C} + A\bar{B}C + \bar{A}\bar{B}C + \bar{A}BC + \bar{A}\bar{B}C$
 $X = A\bar{B}C + A\bar{B}\bar{C} + \bar{A}\bar{B}C + \bar{A}BC + \bar{A}\bar{B}C$
 $X = A\bar{B}C + A\bar{B}\bar{C} + \bar{A}\bar{B}C + \bar{A}BC$
 $X = A(\bar{B}C + \bar{B}\bar{C}) + \bar{A}(\bar{B}C + BC)$
 $X = A(\bar{B}(C + \bar{C})) + \bar{A}(C(\bar{B} + B))$
 $X = A(\bar{B} \cdot 1) + \bar{A}(C \cdot 1) = A\bar{B} + \bar{A}C$

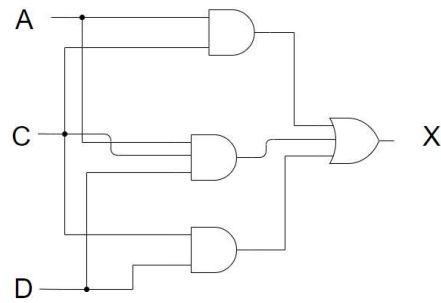


Sebelum Penyederhanaan 5

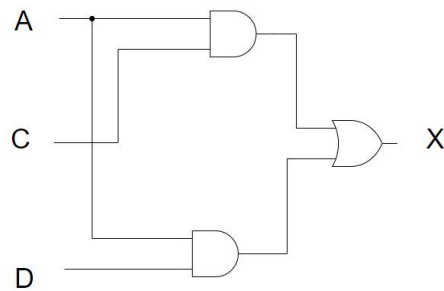


Setelah Penyederhanaan 5

6. $X = AC + ACD + AD = AC(1 + D) + AD = AC + AD$

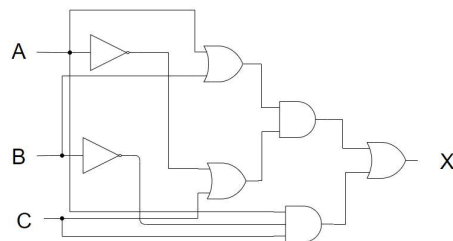


Sebelum Penyederhanaan 6

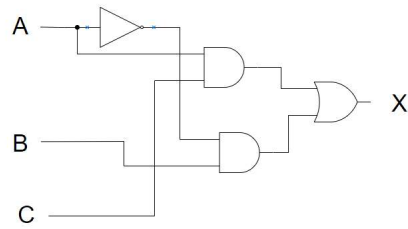


Setelah Penyederhanaan 6

7. $X = (A + B)(\bar{A} + C) + A\bar{B}C$
 $X = A\bar{A} + AC + \bar{A}B + BC + A\bar{B}C$
 $X = 0 + AC(B + \bar{B}) + \bar{A}B(C + \bar{C}) + BC(A + \bar{A}) + A\bar{B}C$
 $X = ABC + A\bar{B}C + \bar{A}BC + \bar{A}B\bar{C} + \bar{A}BC + A\bar{B}C + A\bar{B}C$
 $X = ABC + A\bar{B}C + \bar{A}BC + \bar{A}B\bar{C} = AC(B + \bar{B}) + \bar{A}B(C + \bar{C}) = AC + \bar{A}B$

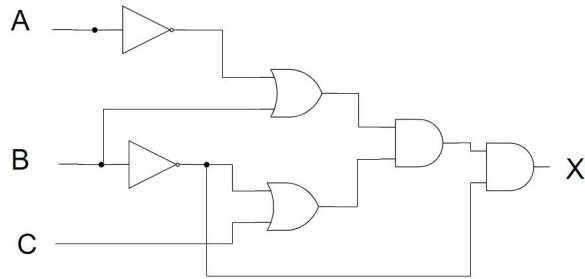


Sebelum Penyederhanaan 7

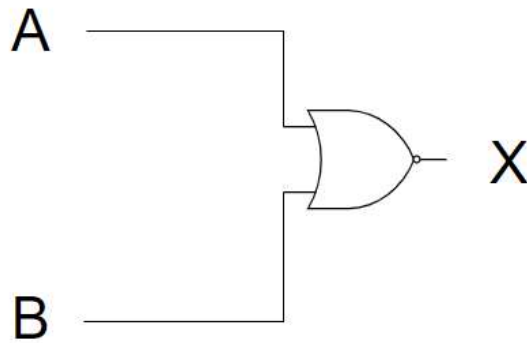


Setelah Penyederhanaan 7

8. $X = ((\bar{A} + B)(\bar{B} + C))\bar{B}$
 $X = (\bar{A}\bar{B} + \bar{A}C + B\bar{B} + BC)\bar{B} = (\bar{A}\bar{B} + \bar{A}C + 0 + BC)\bar{B}$
 $X = \bar{A}\bar{B}\bar{B} + \bar{A}\bar{B}C + B\bar{B}C = \bar{A}\bar{B} + \bar{A}\bar{B}C + 0$
 $X = \bar{A}\bar{B}(1 + C) = \bar{A}\bar{B} = \overline{A + B}$

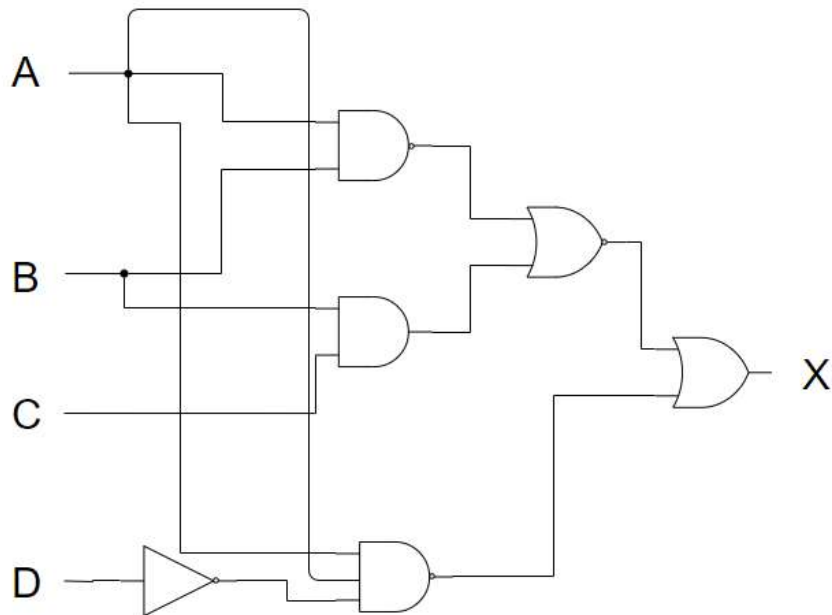


Sebelum Penyederhanaan 8

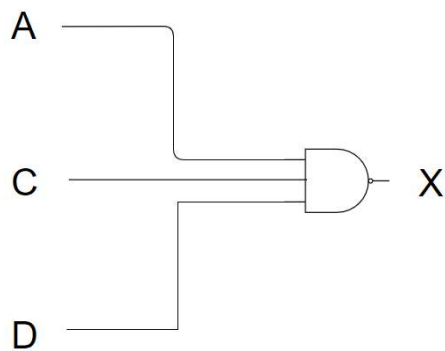


Setelah Penyederhanaan 8

9. $X = \overline{(\overline{AB} + BC)} + \overline{ACD}$
 $X = (\overline{\overline{A} + \overline{B} + BC}) + \overline{A} + \overline{C} + \overline{D} = (\overline{\overline{A}} \cdot \overline{\overline{B}} \cdot \overline{BC}) + \overline{A} + \overline{C} + \overline{D} = AB(\overline{B} + \overline{C}) + \overline{A} + \overline{C} + \overline{D}$
 $X = AB\overline{B} + AB\overline{C} + \overline{A} + \overline{C} + \overline{D} = 0 + AB\overline{C} + \overline{A} + \overline{C} + \overline{D}$
 $X = \overline{C}(1 + BC) + \overline{A} + \overline{D} = \overline{A} + \overline{C} + \overline{D} = \overline{ACD}$

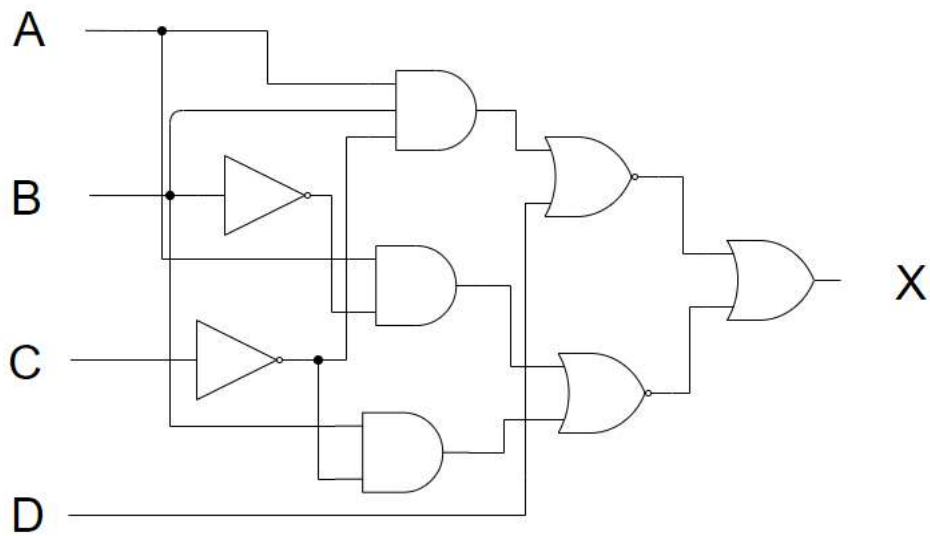


Sebelum Penyederhanaan 9

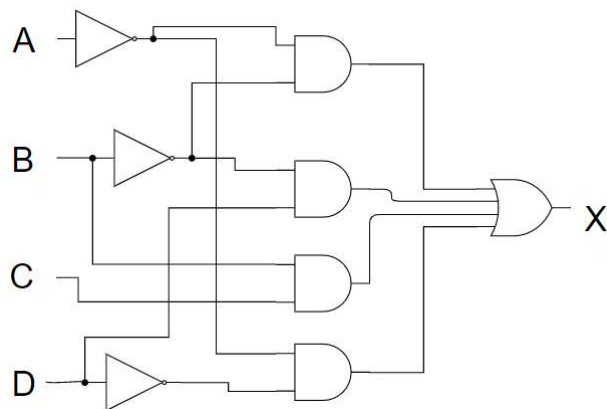


Setelah Penyederhanaan 9

10. $X = \overline{(ABC + D)} + (\overline{AB} + \overline{BC}) = (\overline{ABC} \cdot \overline{D}) + (\overline{AB} \cdot \overline{BC}) = ((\bar{A} + \bar{B} + C) \cdot D) + ((\bar{A} + B) + (\bar{B} + C))$
 $X = (\bar{A}D + \bar{B}D + CD) + (\bar{A}\bar{B} + \bar{A}C + B\bar{B} + BC) = (\bar{A}D + \bar{B}D + CD) + (\bar{A}\bar{B} + \bar{A}C + 0 + BC)$
 $X = (\bar{A}D + \bar{B}D + CD + \bar{A}\bar{B}) + (\bar{A}\bar{B}(C + \bar{C}) + \bar{A}C(B + \bar{B}) + BC(A + \bar{A}))$
 $X = (\bar{A}D + \bar{B}D + CD + \bar{A}\bar{B}) + (\bar{A}\bar{B}C + \bar{A}\bar{B}\bar{C} + \bar{A}BC + \bar{A}\bar{B}C + ABC + \bar{A}BC)$
 $X = (\bar{A}D + \bar{B}D + CD + \bar{A}\bar{B}) + (\bar{A}\bar{B}C + \bar{A}\bar{B}\bar{C} + \bar{A}BC + ABC)$
 $X = (\bar{A}D + \bar{B}D + CD + \bar{A}\bar{B}) + (\bar{A}\bar{B}(C + \bar{C}) + BC(\bar{A} + A)) = \bar{A}D + \bar{B}D + CD + \bar{A}\bar{B} + \bar{A}\bar{B} + BC$
 $X = (BC + \bar{B}D + CD) + \bar{A}\bar{B} + \bar{A}\bar{B} + \bar{A}D$
 $X = (BC(D + \bar{D}) + \bar{B}D(C + \bar{C}) + CD(B + \bar{B})) + \bar{A}\bar{B} + \bar{A}D$
 $X = (BCD + BC\bar{D} + \bar{B}CD + \bar{B}\bar{C}D + \bar{B}CD + \bar{B}\bar{C}D) + \bar{A}\bar{B} + \bar{A}D$
 $X = (BC(D + \bar{D}) + \bar{B}D(C + \bar{C}) + \bar{A}\bar{B} + \bar{A}D) = BC + \bar{B}D + \bar{A}\bar{B} + \bar{A}D$



Sebelum Penyederhanaan 10



Setelah Penyederhanaan 10

