

Solutions for the midterm practice.

A. Convert AUQ(32) \rightarrow X(8)

Common exponent is 2. $\rightarrow 8 = (2)^3 \rightarrow 32 = (2)^5$

AUQ will have 5 binary digits and x(8) 3 binary digits.

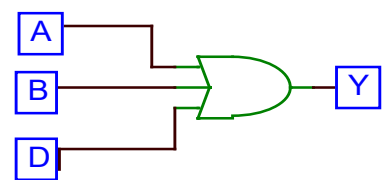
A = 10 U = 30 Q = 26
 01010 11110 11010

\rightarrow Arranging it into group of 3 each

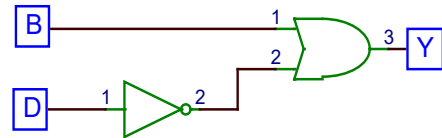
010 101 111 011 010
 2 5 7 3 2 \rightarrow 25732(8)

AB	00	01	11	10
CD				
00	0	1	1	1
01	1	1	1	1
11	1	1	1	1
10	0	1	1	1

Grouping the zeros

$Y' = A'B'D' \rightarrow Y = (A'B'D')' = A+B+D$	
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AB	00	01	11	10
CD				
00	1	11	11	1
01		1	1	
11		1	1	
10	1	11	11	1

$Y = B + D'$	
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