



ELEC –H-305 Circuits Logiques et Numériques

Séance 6

Méthode de Quine - Mc Cluskey : recherche des implicants premiers

1. Trouver les implicants premiers par la méthode de Quine - Mc Cluskey:
 - a.) $f(A,B,C,D)=\Sigma m(2,4,8,9,10,11,13,15)$
 - b.) $f(A,B,C,D)=\Sigma m(0,4,5,8,12,13)$
 - c.) $f(A,B,C,D)=\Sigma m(0,1,2,7,8,9,10)$
 - d.) $f(A,B,C,D)=\Sigma m(0,2,5,6,7,8,10,12,13,14,15)$
 - e.) $f(A,B,C,D)=\Sigma m(2,3,4,10,12,13) + \Sigma d(11,14,15)$
 - f.) $f(A,B,C,D)=\Sigma m(0,2,4,5,6,9,10) + \Sigma d(7,11,12,13,14,15)$
 - g.) $f(A,B,C,D,E)=\Sigma m(0,1,2,4,11,15,17,20,21,31) + \Sigma d(5,6,16,18,22,27)$
 - h.) $f(A,B,C,D,E)=\Sigma m(0,13,18,26,28,29) + \Sigma d(2,8,10,12,16,24)$
 - i.) $f(A,B,C,D,E)=\Sigma m(0,2,5,7,8,9,10,11,13,23,26,27,29) + \Sigma d(3,12,15,18,19,21,22,31)$
 - j.) $f(A,B,C,D,E,F) = \Sigma m(16,28,53,60,63)$
 - k.) $f(A,B,C,D,E,F) = \Sigma m(1,2,3,15,17,18,19,26,32,48,63)$
 - l.) $f(A,B,C,D,E,F) = \Sigma m(1,2,3,15,16,17,18,19,26,28,29,30,32,48,63)$
 - m.) $f(A,B,C,D,E,F) = \Sigma m(0,7,11,13,16,23,28,31) + \Sigma d(1,2,17,19,25)$
 - n.) $f(A,B,C,D,E,F) = \Sigma m(1,2,3,15,17,18,19,26,32,48,63) + \Sigma d(16,28,29,30)$
 - o.) $f(A,B,C,D,E,F) = \Sigma m(0,1,2,5,14,16,18,24,26,30) + \Sigma d(3,13,28)$
 - p.) $f(A,B,C,D,E,F) = \Sigma m(7,8,9,13,17,41,45,57) + \Sigma d(1,15,44,56)$
 - q.) $f(A,B,C,D,E,F,G) = \Sigma m(28,39,52,65,102,103,120)$
2. Trouver les fonctions simplifiées :
 - a.) $f(a,b,c,d) = \Sigma m(0,2,4,5,10,11,13,15) + \Sigma d(6,8)$
 - b.) $f(a,b,c,d) = \Sigma m(1,5,6,9,11,12,14,15) + \Sigma d(2,3,4,13)$
 - c.) $f(a,b,c,d,e) = \Sigma m(3,7,14,15,19,22,23,27,31) + \Sigma d(0,6,11,24,25,28,29,30)$