Practical Application of K maps:

1 bit comparator circuit

A	B	
0	0	A = B
0	1	A<B
1	0	A>B
1	1	A=B

A= B ➔ ~(A xor B)
A < B ➔ a'b
A>B ➔ ab'

2 bit comparator A(a1a0) B(b1b0)

Table 1. Truth Table of 2-Bit Magnitude Comparator

INPUT				OUTPUT		
A1	A0	B1	B0	A>B	A=B	A<B
0	0	0	0	0	1	0
0	0	0	1	0	0	1
0	0	1	0	0	0	1
0	0	1	1	0	0	1
0	1	0	0	1	0	0
0	1	0	1	0	1	0
0	1	1	0	0	0	1
0	1	1	1	0	0	1
1	0	0	0	1	0	0
1	0	0	1	1	0	0
1	0	1	0	0	1	0
1	0	1	1	0	0	1
1	1	0	0	1	0	0
1	1	0	1	1	0	0
1	1	1	0	1	0	0
1	1	1	1	0	1	0