FACULTY OF ENGINEERING & TECHNOLOGY

Dileep Kumar
Assistant Prof. EE Deptt

Rolling groups:

It is also allowed to roll the K – map so that grouping of largest number of 1s may be formed. To understand this consider a K – map as shown in figure 1. In this K – map while encircling, one can obtain two quads but using the rolling of K – map, an octet may be formed as shown in figure 2. Here the rolling is done in such a way that the left hand side encircled quad touches the right hand side encircled quad. This in fact looks like an octet. The rolling is shown by half encircling the two groups as shown in figure 2.

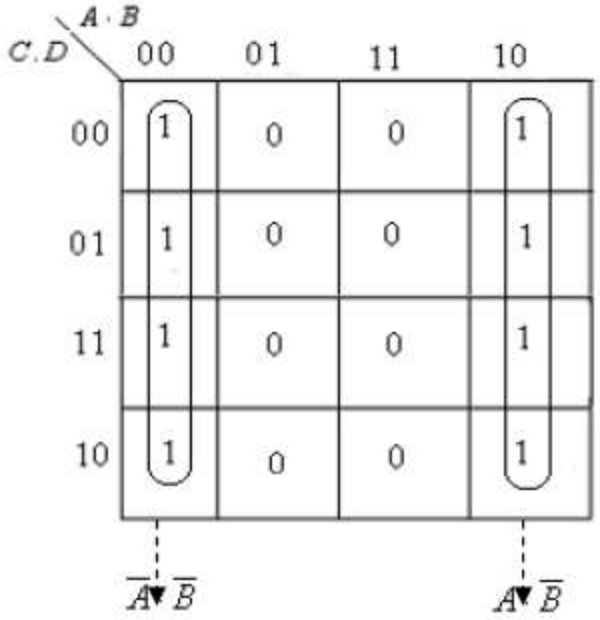


figure 1

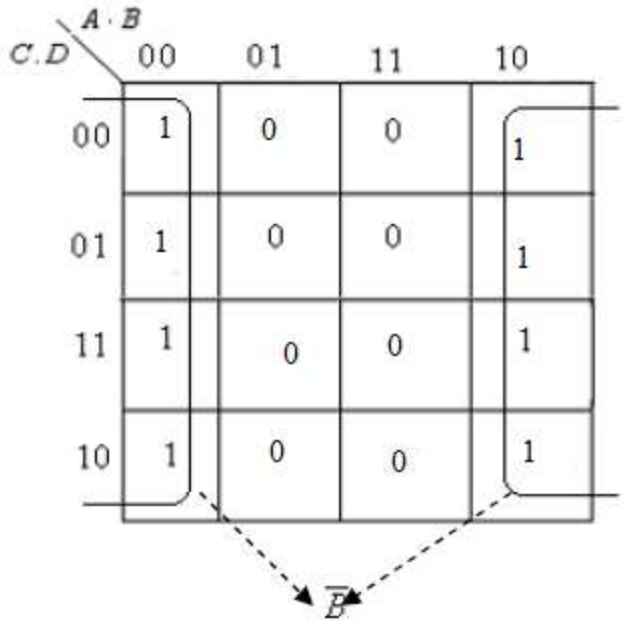
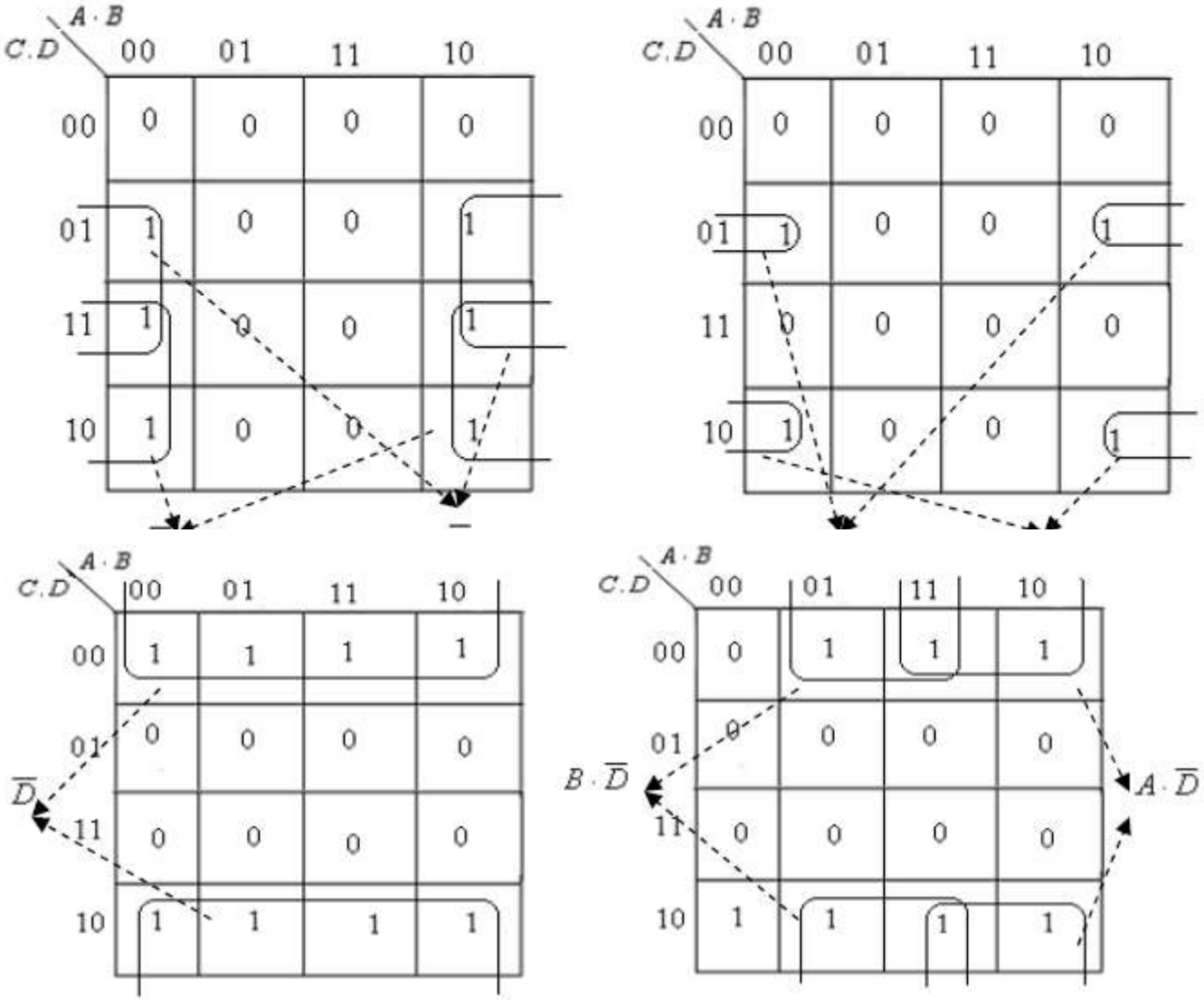


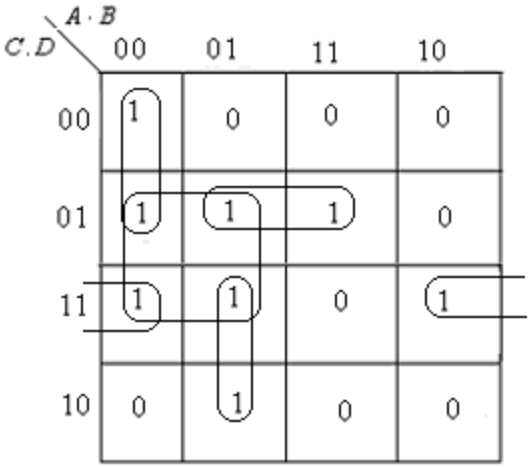
figure 2

The following rolling is possible as illustrated in figure



Redundant Groups:

While encircling the groups in the K – maps, there is a possibility that all the elements (1s) of some group/groups are overlapped by other groups. Such a group whose all 1s are overlapped by other groups is called a redundant group. The redundant groups may be illustrated by considering a K – map as shown in figure.



In this K – map the encircled groups are: one quad and four pairs. But quad is redundant since all its four 1s are used in forming other pairs. The quad is, therefore, eliminated. So the valid encircled groups will be as shown in figure.