# PS1

1. Assume there is a filter .

And there is an image .

We do the multiplication .(9 multiplications).

According to Associative property we can reduce it by dividing the filter as part1 and part2:

. We can get . It uses 9 times of multiplication.

. We can get. It uses 3 times of multiplication.

So the associative property makes it more efficient.

2. The result is [1 1 1 1 1 0 1 1].

3.