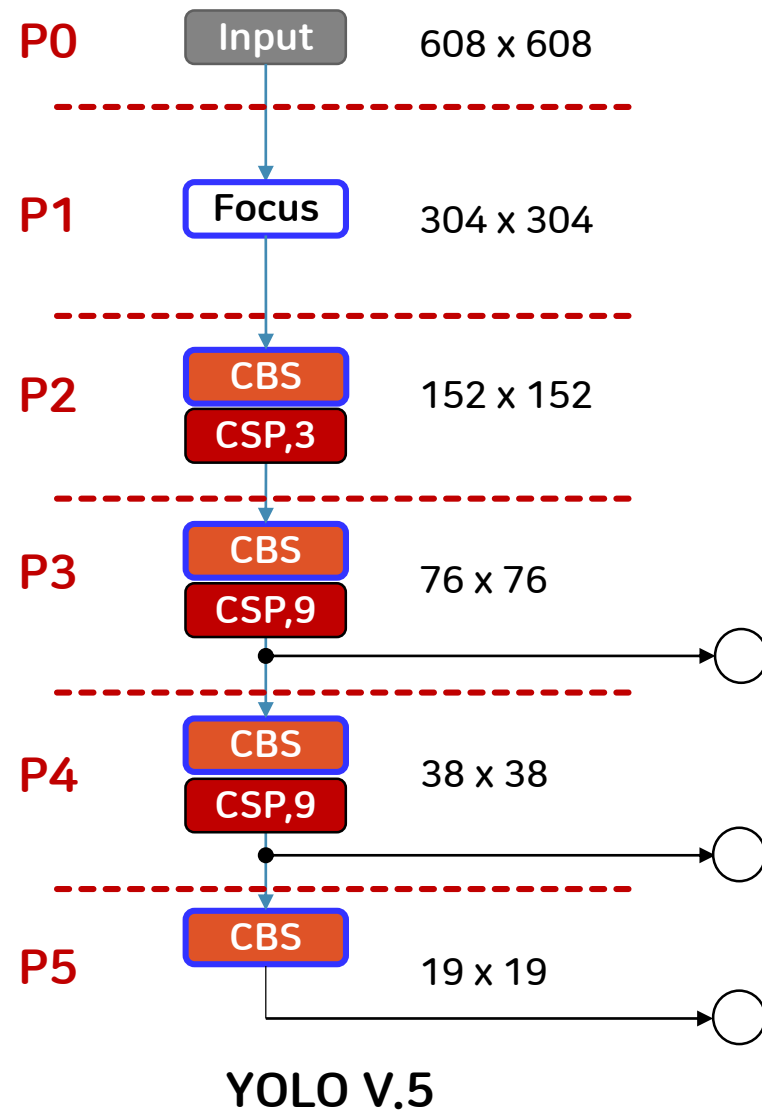
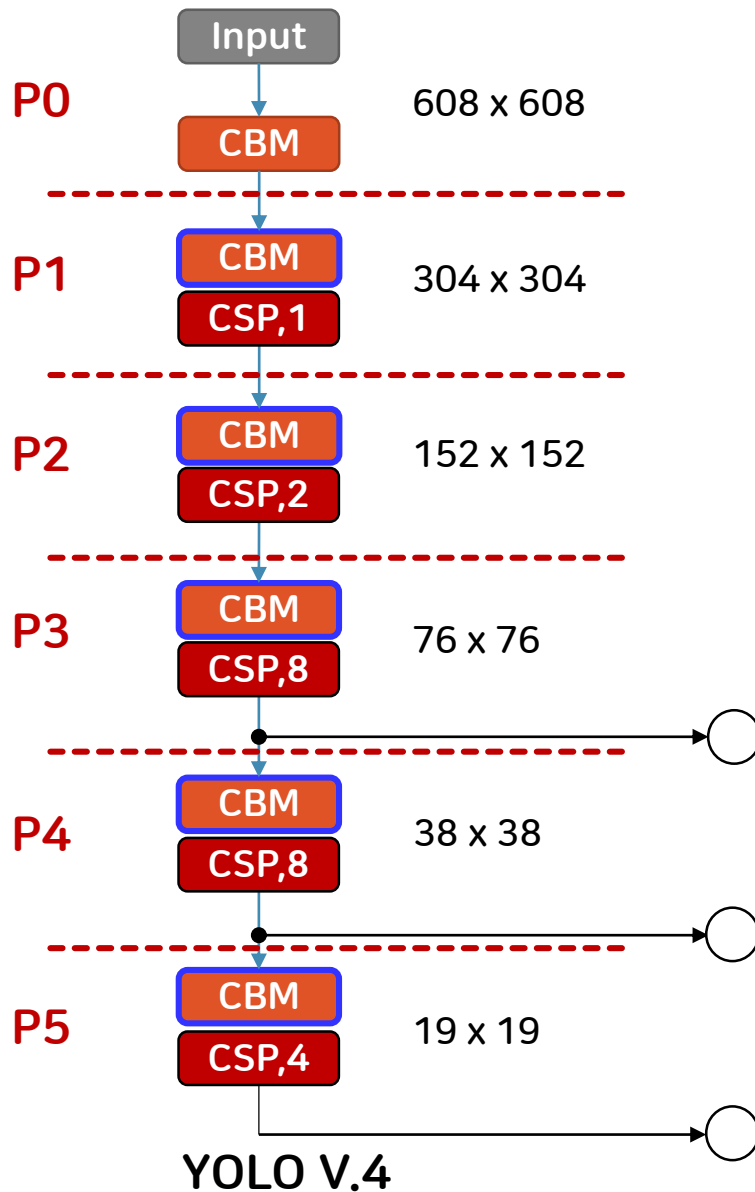
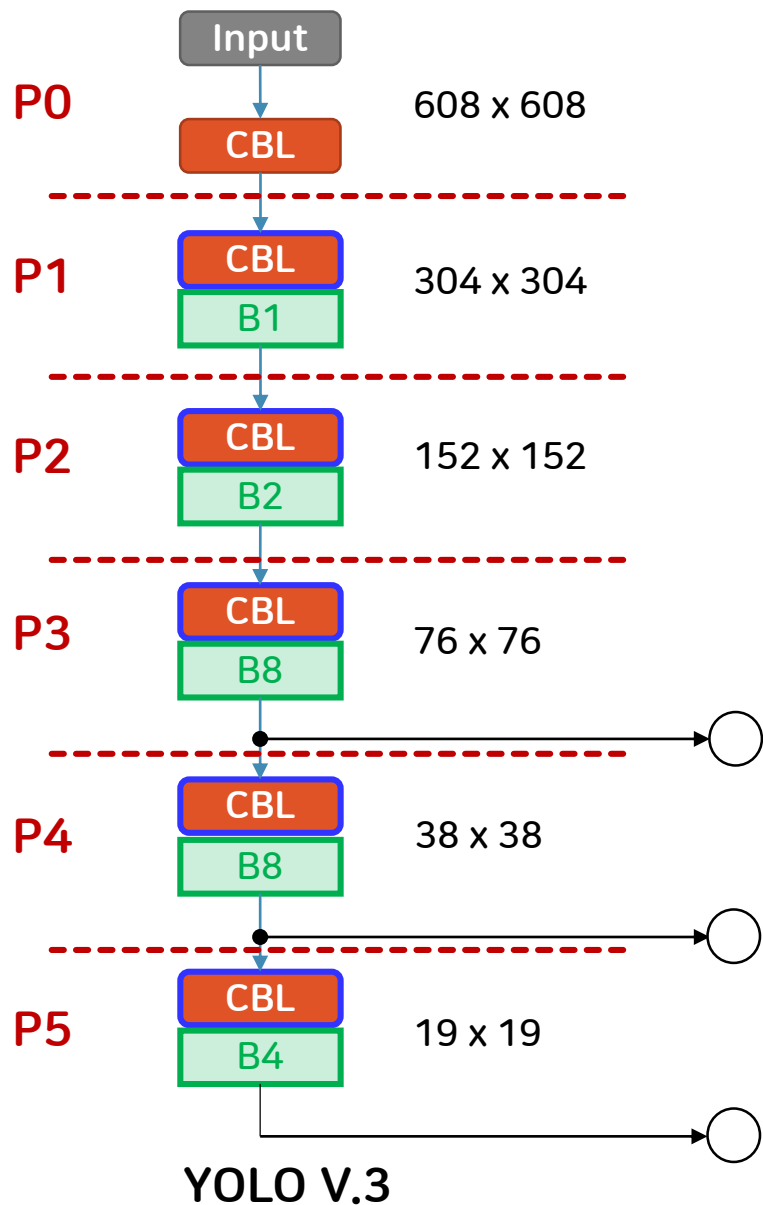
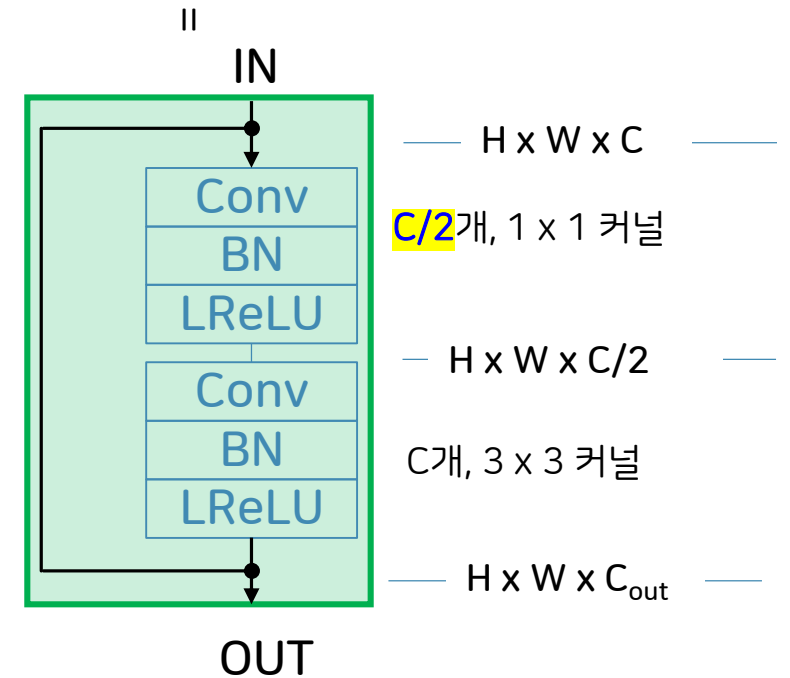
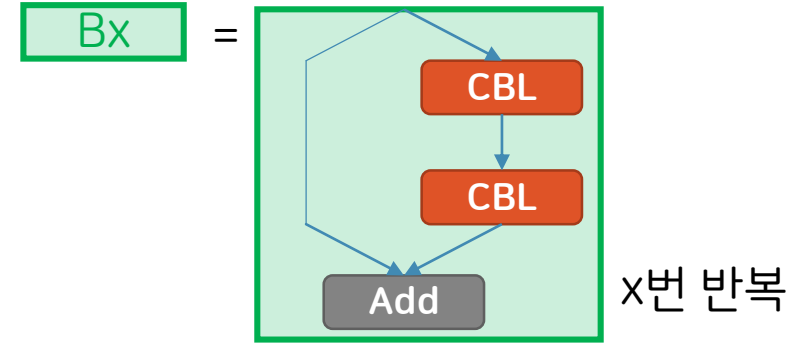
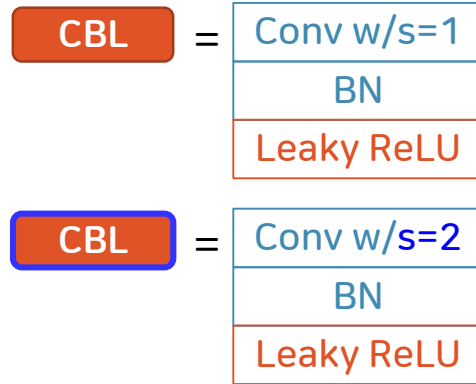
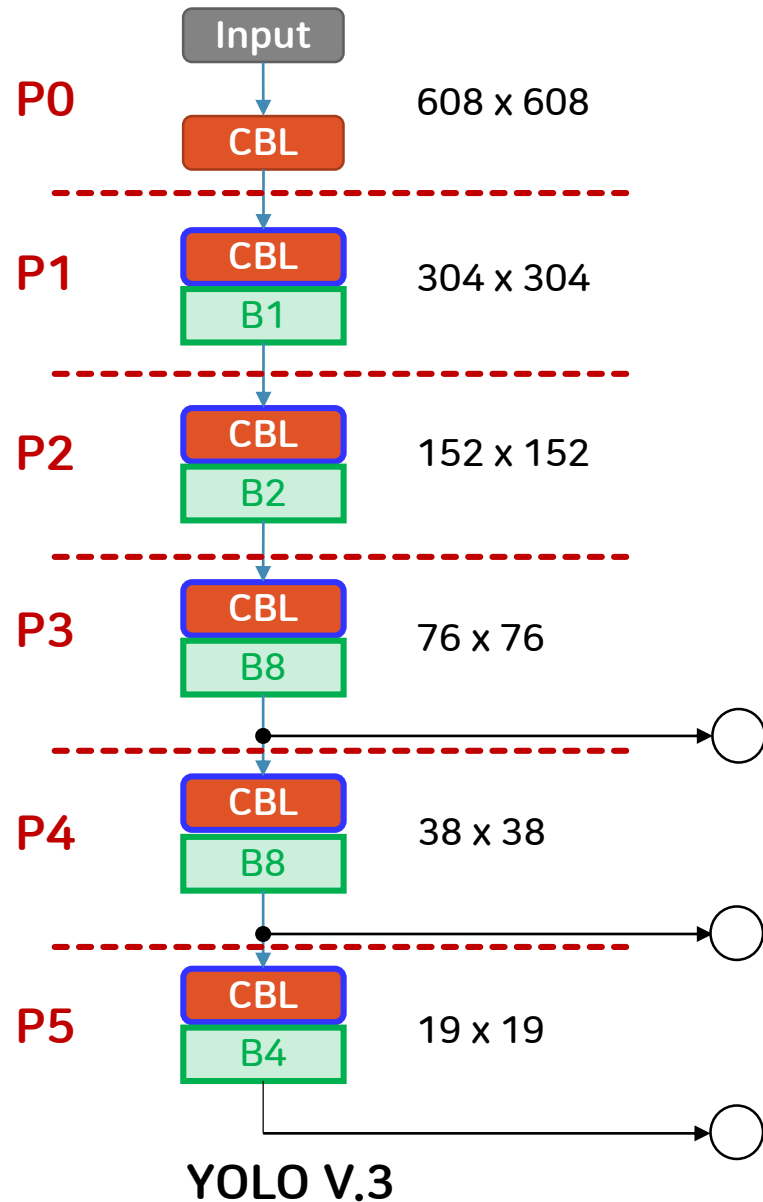


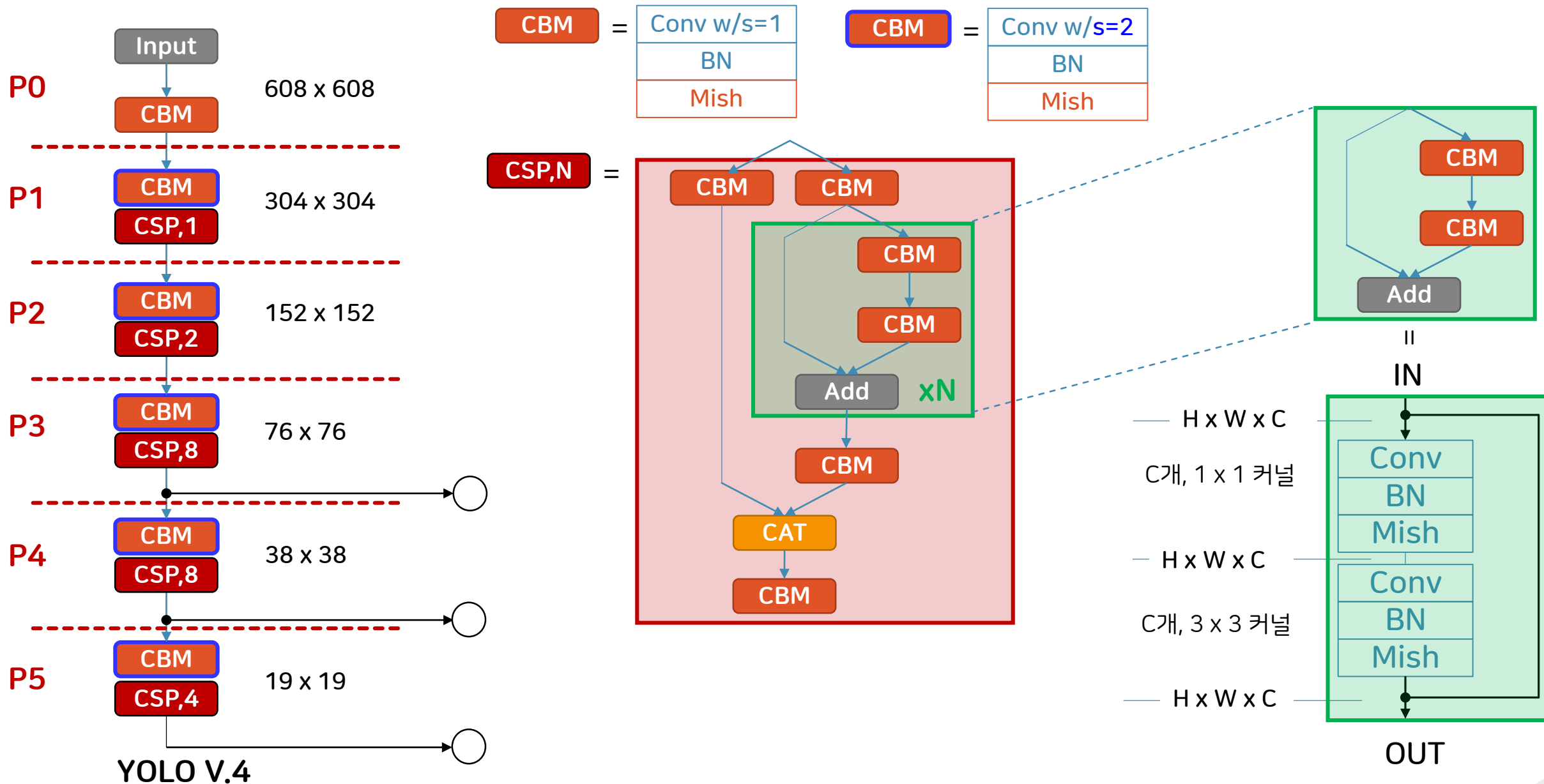
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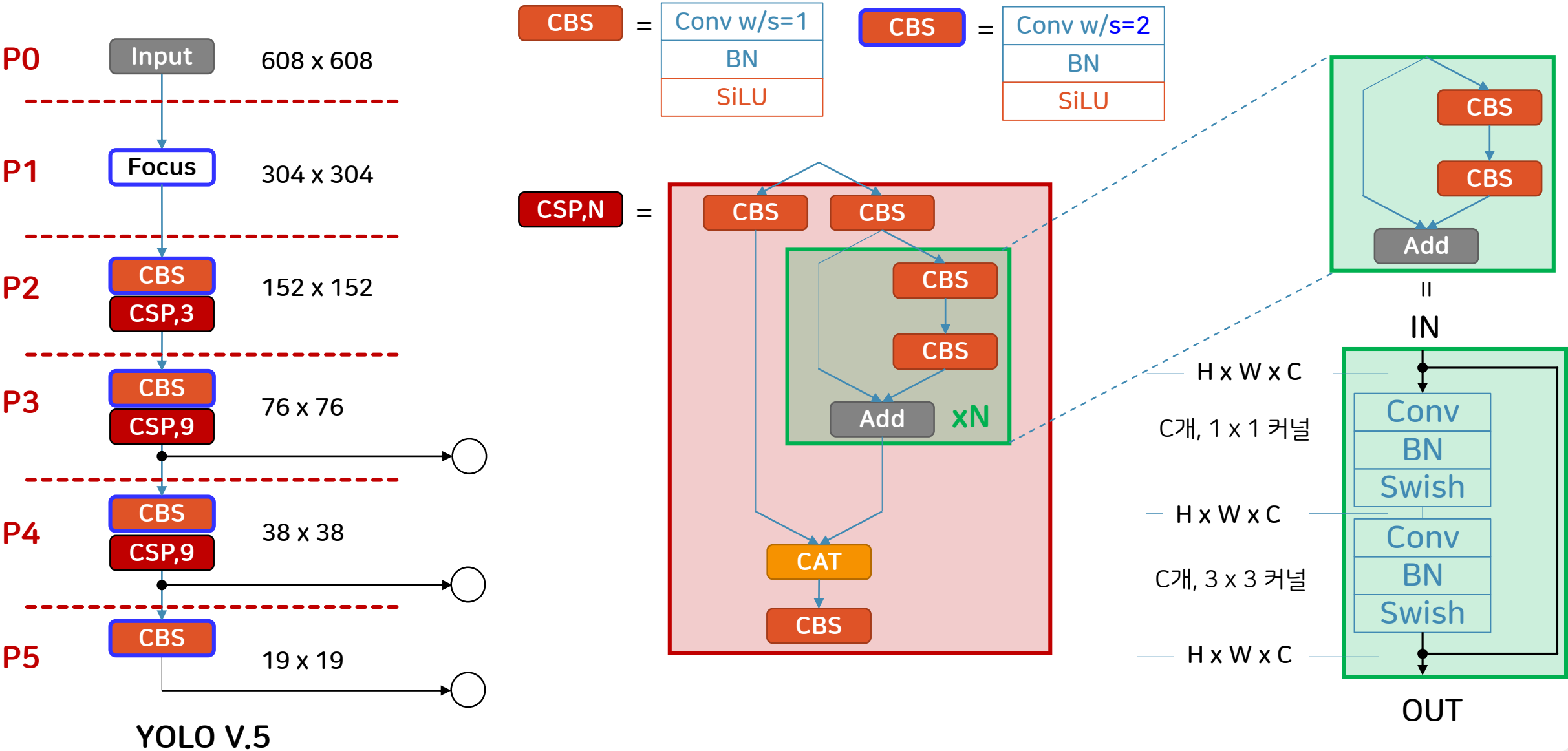
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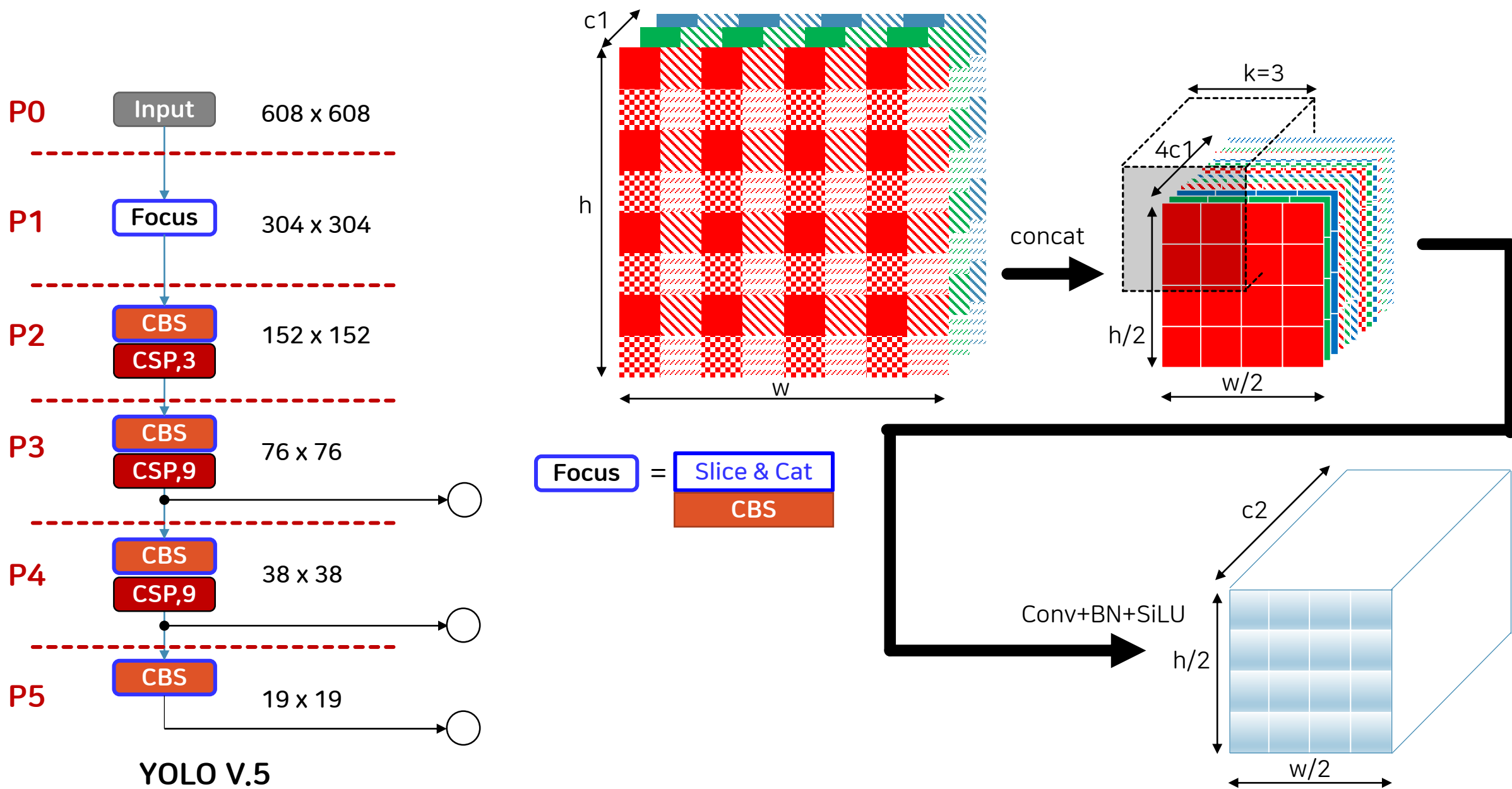
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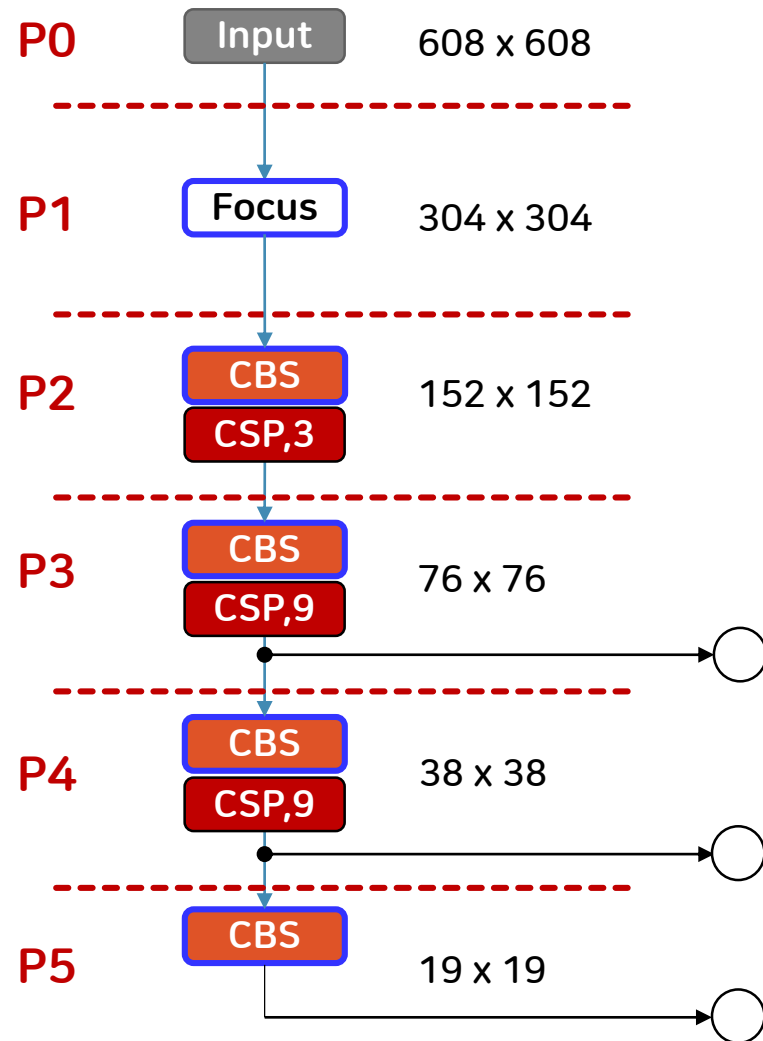
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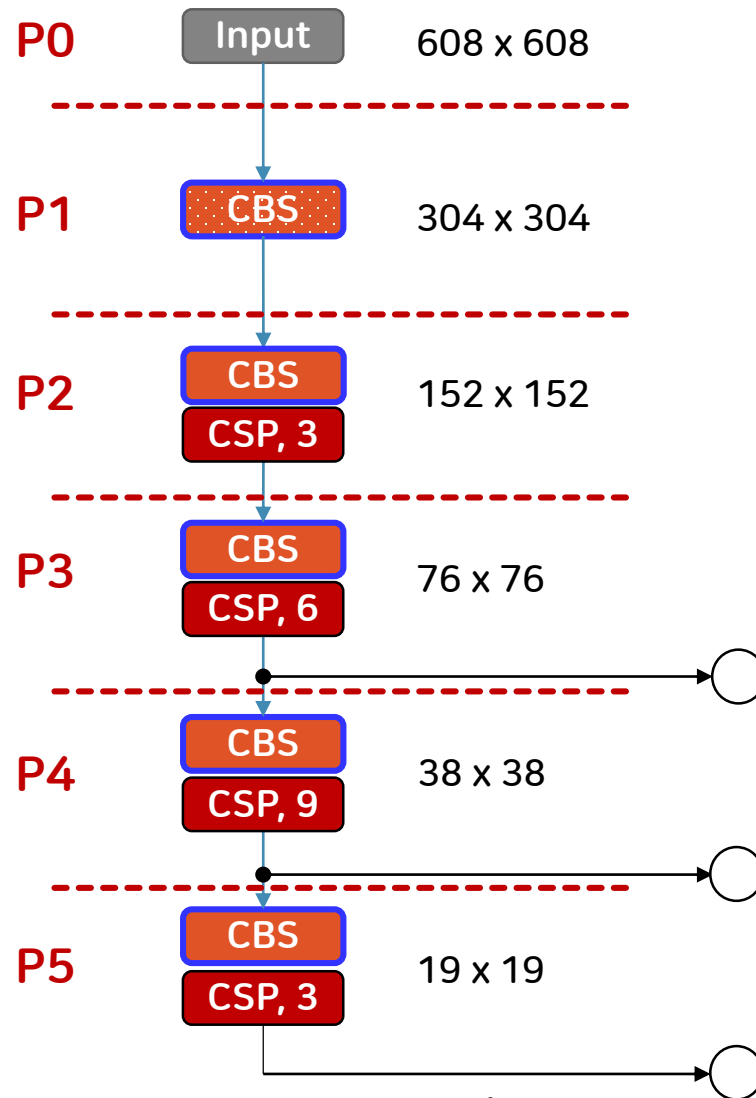
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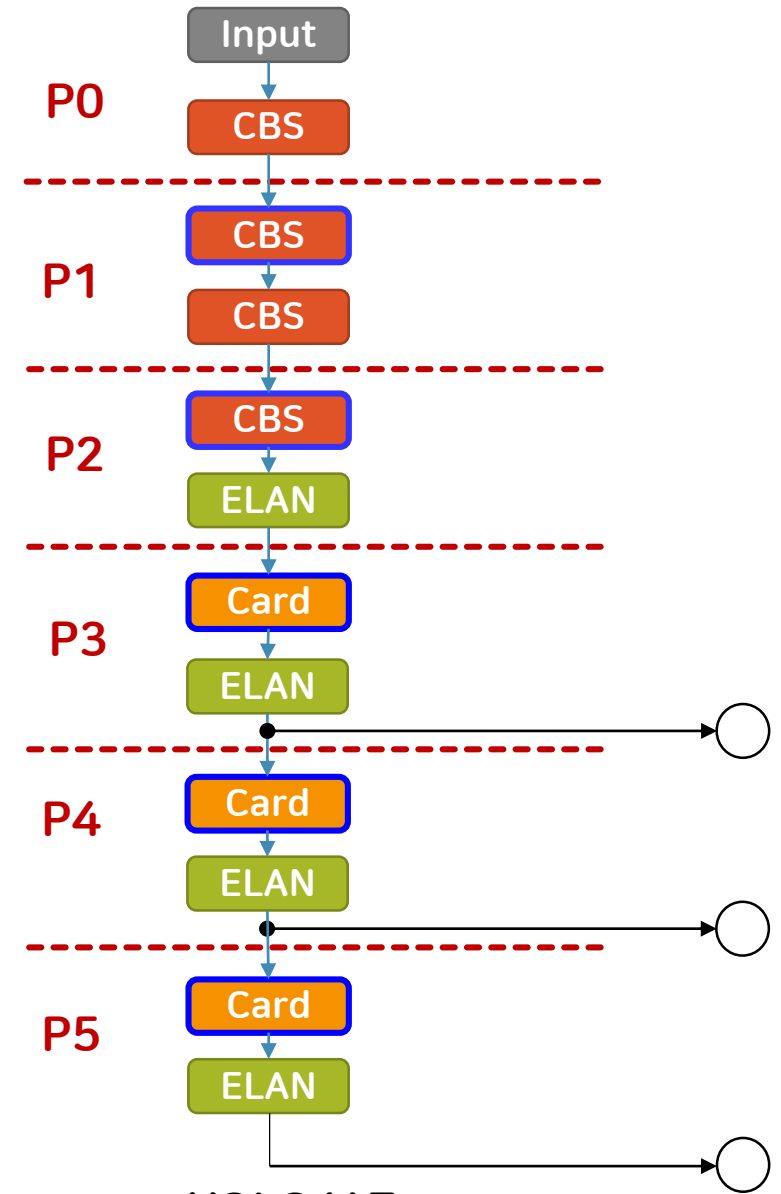
베이스 신경망 구조 선정 : YOLO V.5 ~ V.7 백본 리뷰



YOLO V.5

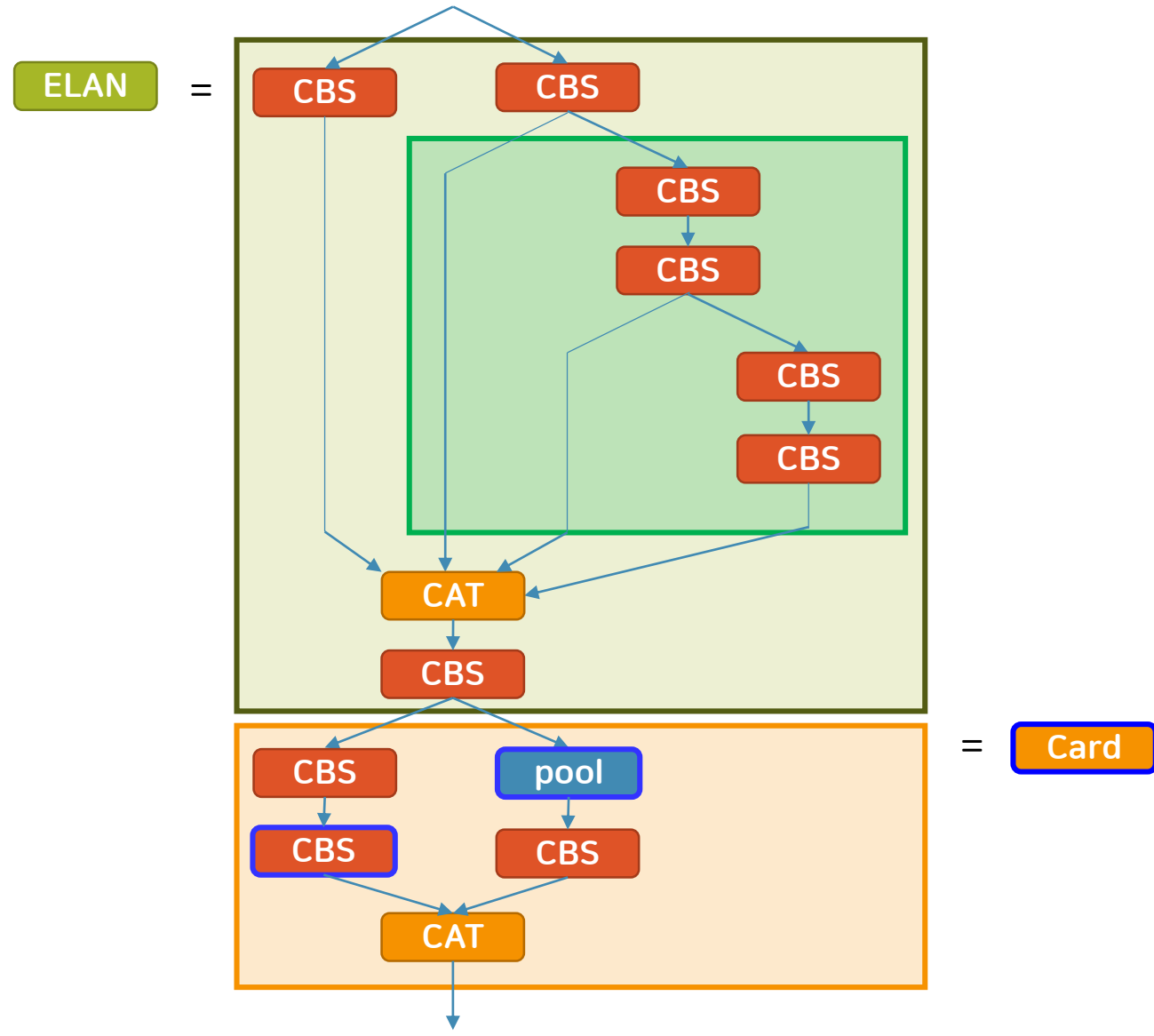
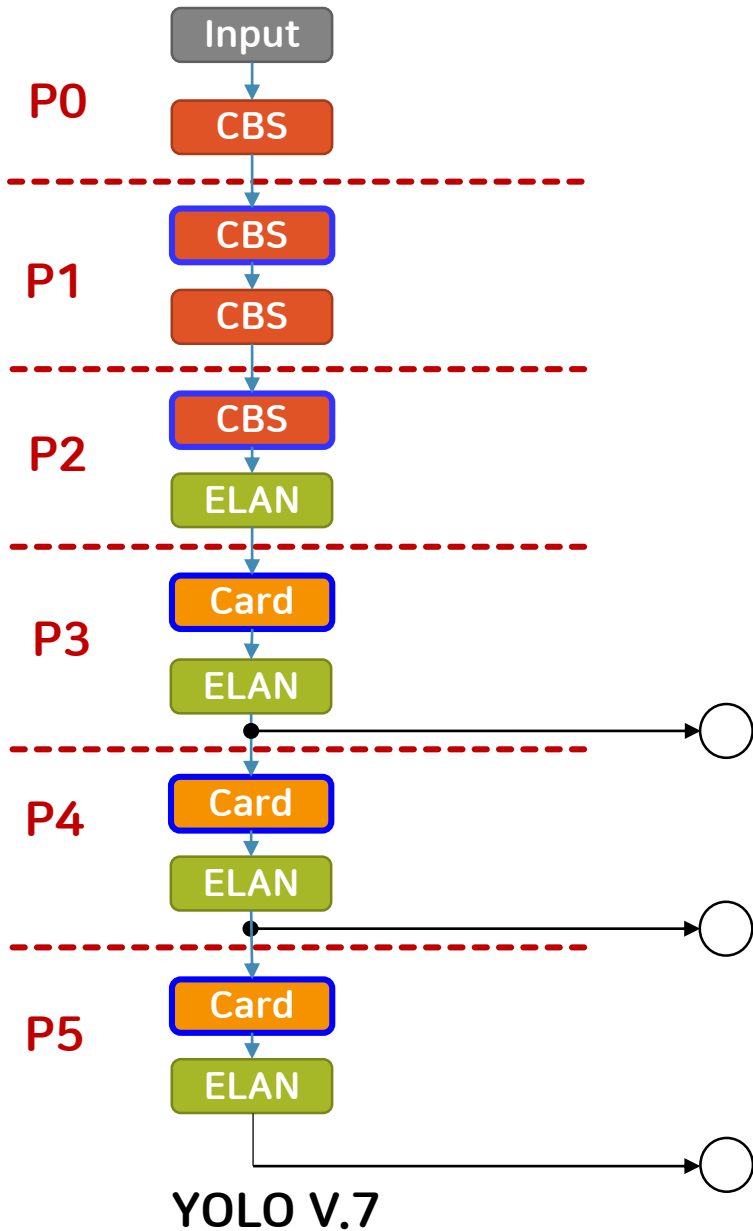


YOLO V.5 version 6

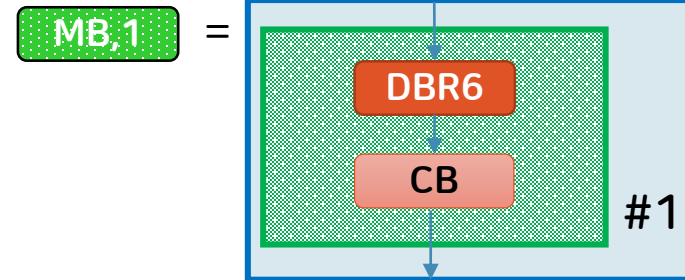
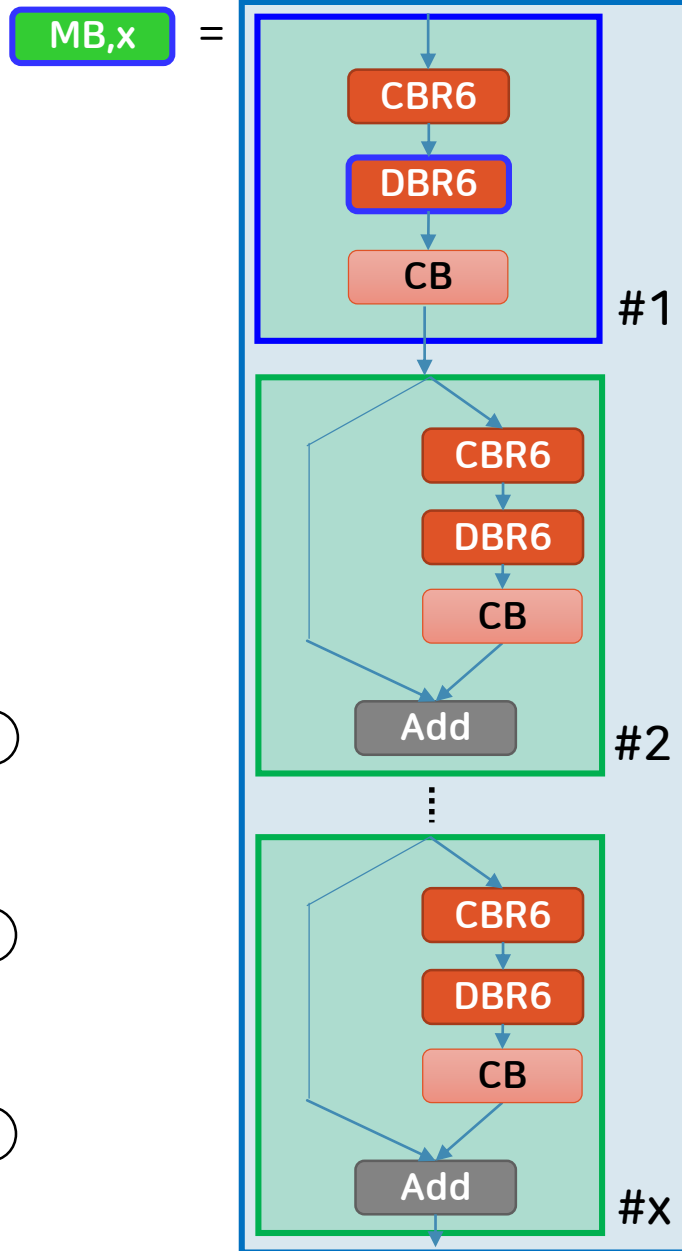
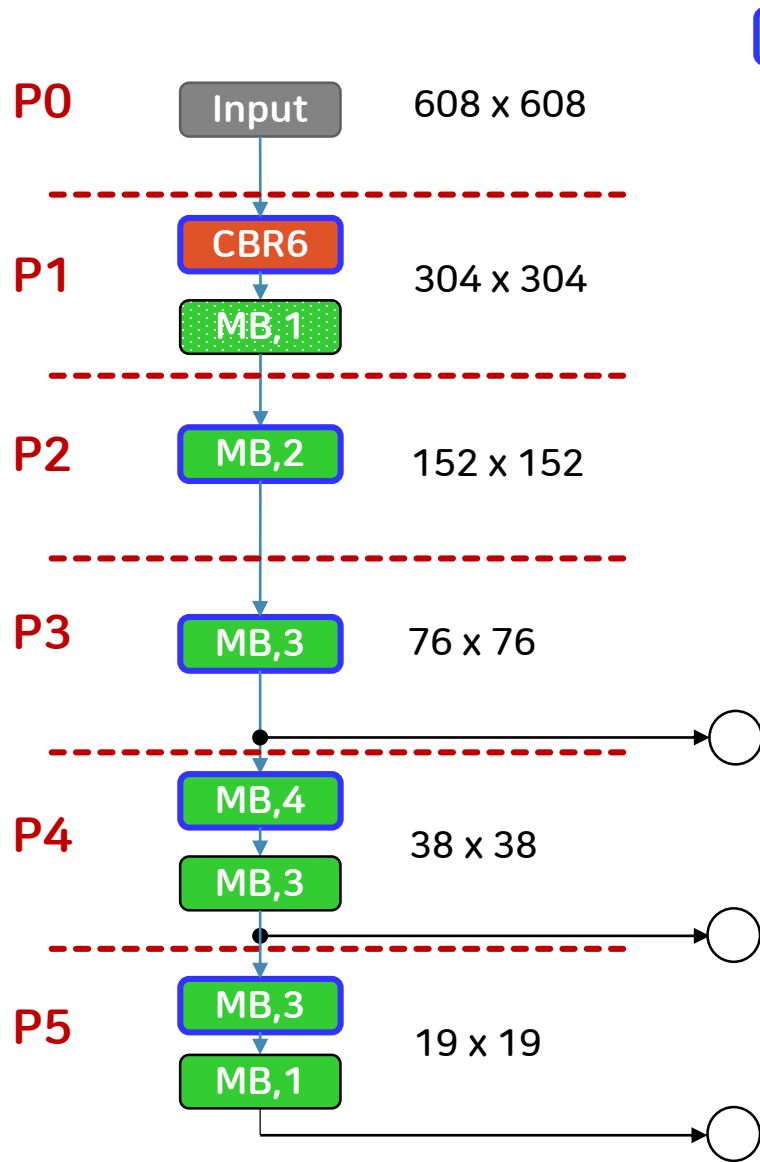


YOLO V.7

베이스 신경망 구조 선정 : YOLO V.5 ~ V.7 백본 리뷰

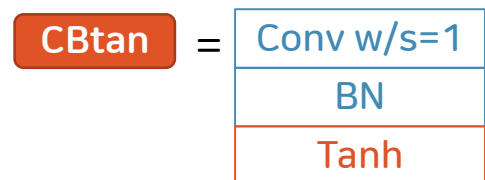
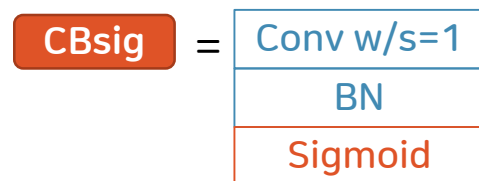


베이스 신경망 구조 선정 : MobileNet V.2 리뷰

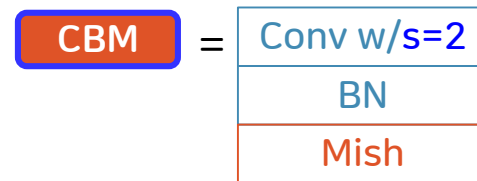
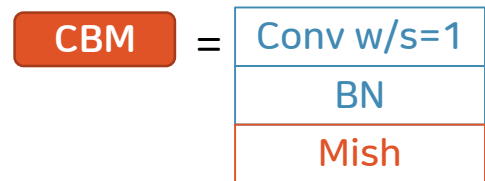
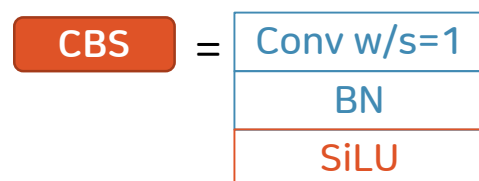
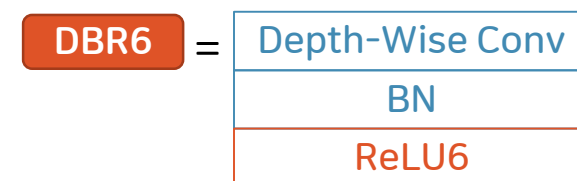
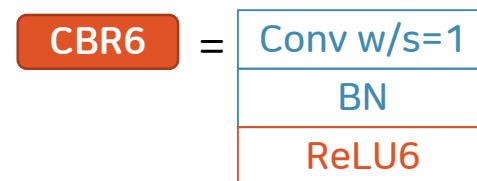
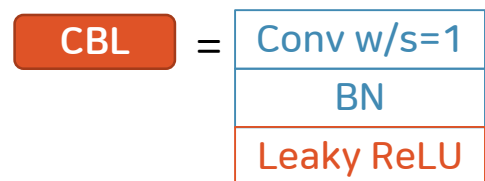
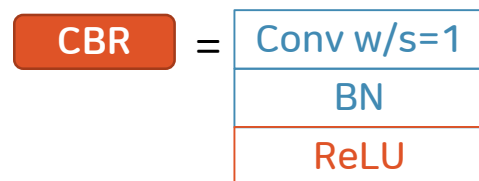


검색 공간 정의 : 기본 합성곱 연산 블록

- Basic Convolution Ops Blocks

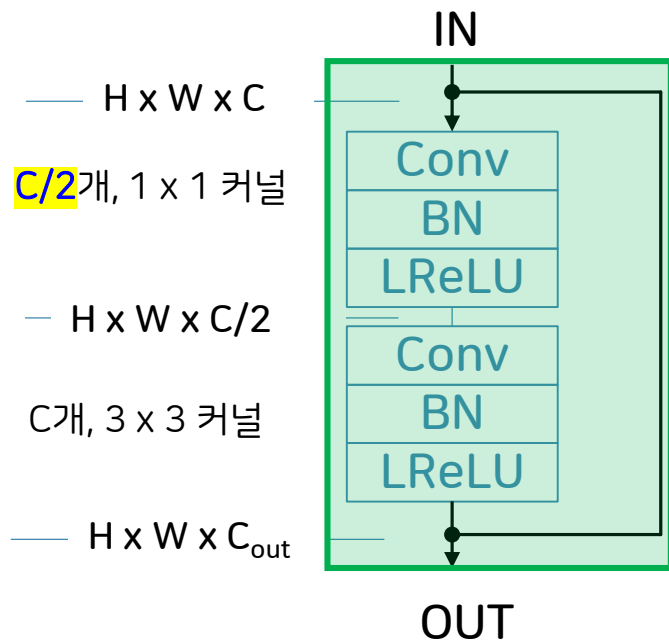


----- convolution
----- normalization
----- activation

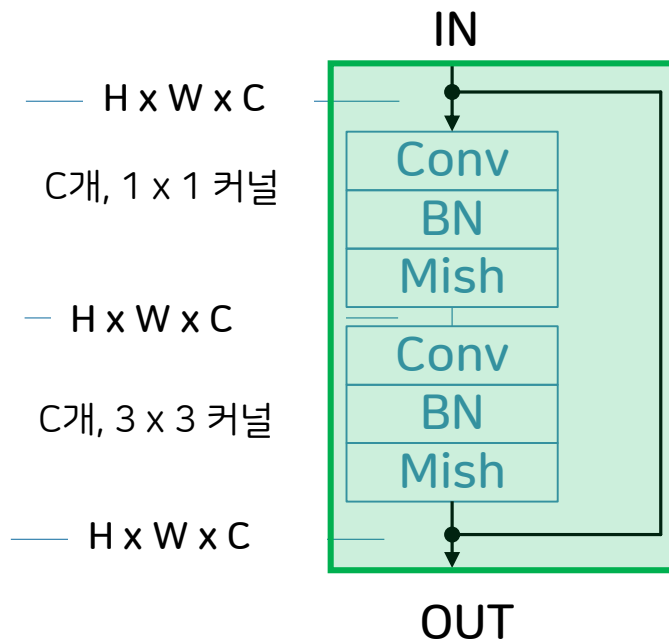


검색 공간 정의 : YOLO에서의 Bottleneck 구조

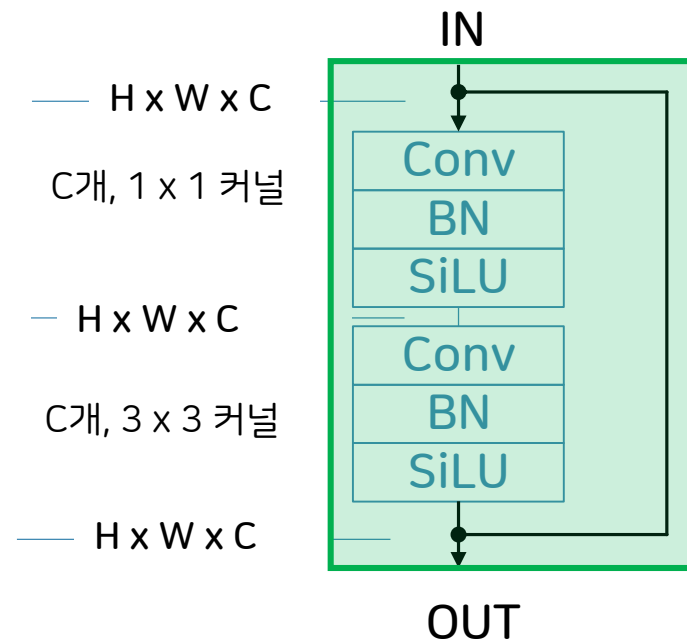
YOLO V.3에서 사용한 구조



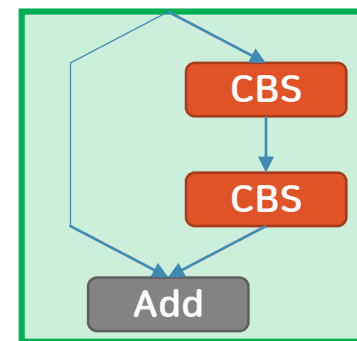
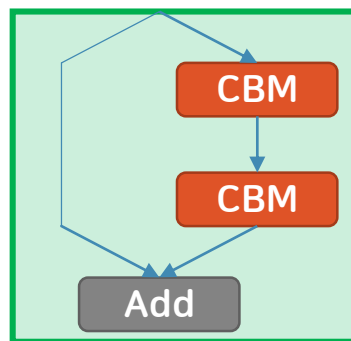
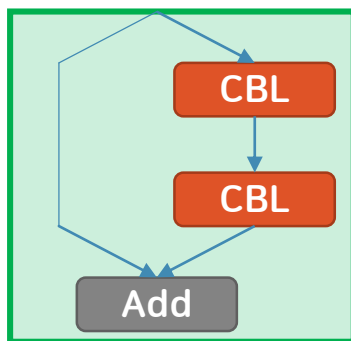
YOLO V.4에서 사용한 구조



YOLO V.5에서 사용한 구조



AutoNN
Notation

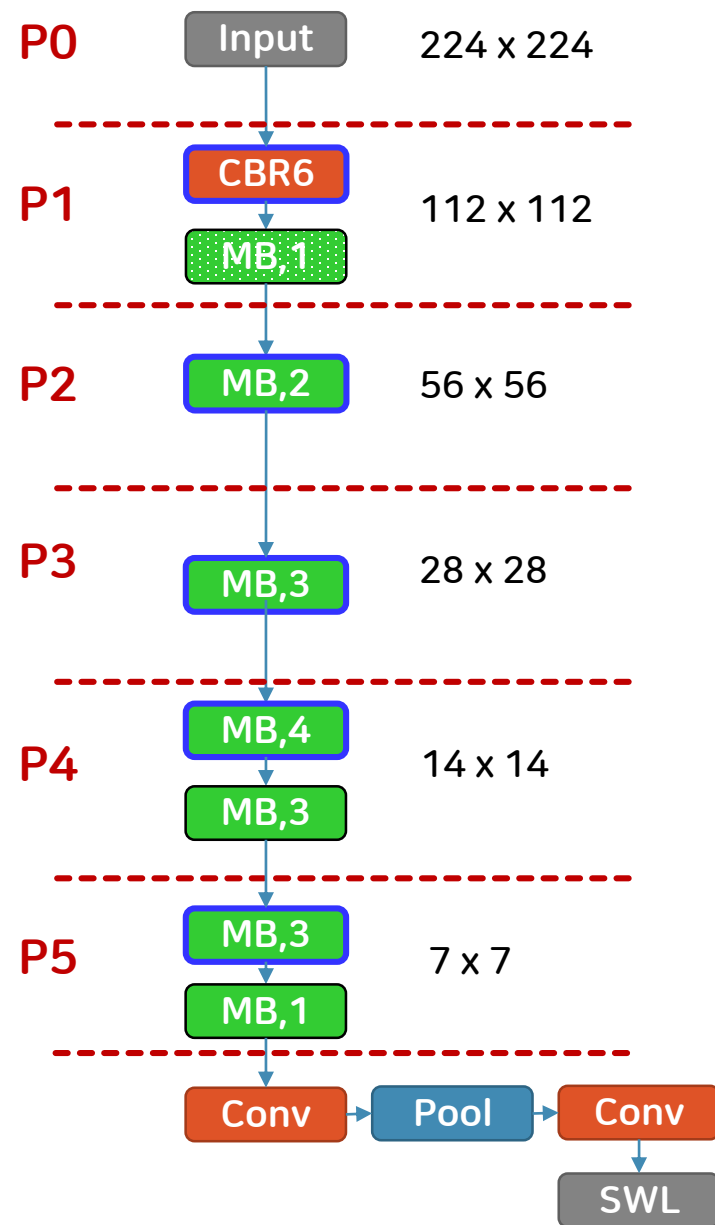


검색 공간 정의 : MobileNet V.2의 bottleneck block

Input	Operator	t	c	n	s
$224^2 \times 3$	conv2d	-	32	1	2
$112^2 \times 32$	bottleneck	1	16	1	1
$112^2 \times 16$	bottleneck	6	24	2	2
$56^2 \times 24$	bottleneck	6	32	3	2
$28^2 \times 32$	bottleneck	6	64	4	2
$14^2 \times 64$	bottleneck	6	96	3	1
$14^2 \times 96$	bottleneck	6	160	3	2
$7^2 \times 160$	bottleneck	6	320	1	1
$7^2 \times 320$	conv2d 1x1	-	1280	1	1
$7^2 \times 1280$	avgpool 7x7	-	-	1	-
$1 \times 1 \times 1280$	conv2d 1x1	-	k	-	-

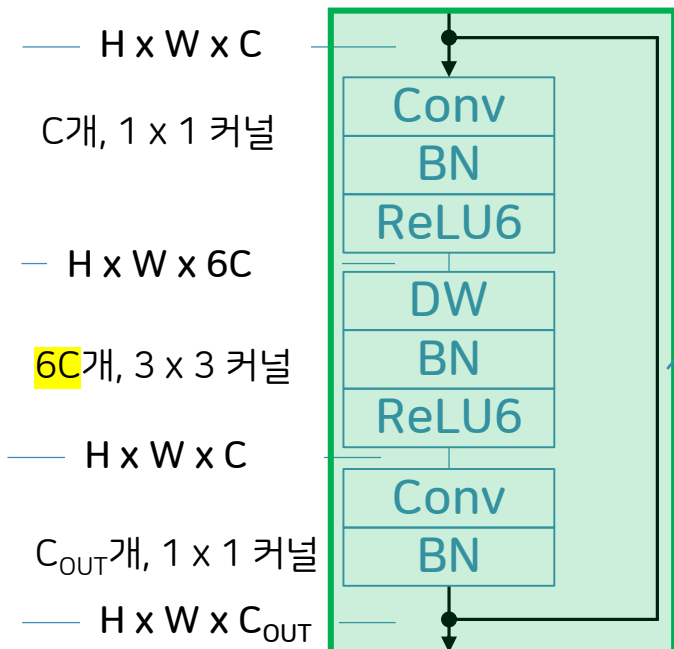
Table 2: MobileNetV2 : Each line describes a sequence of 1 or more identical (modulo stride) layers, repeated n times. All layers in the same sequence have the same

- 같은 용어를 다르게 사용하고 있기 때문에 혼란이 올 수 있음
- 여기서는 original bottleneck 구조를 의미하는 것이 아니라 **bottleneck residual block**를 n 개 포함한 블록을 bottleneck block이라고 지칭함
- 혼동을 피하기 위해 AutoNN notation에서는 MBx로 정의함

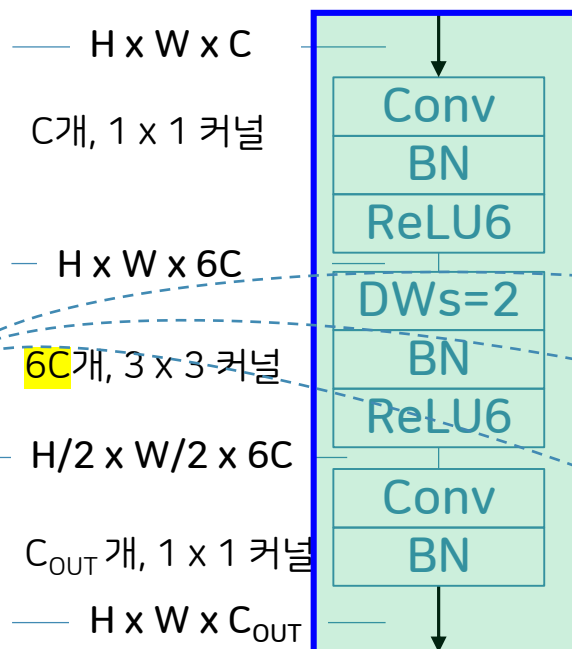


검색 공간 정의 : MobileNet V.2의 bottleneck block

Bottleneck Residual Block (Inverted Residual Block)

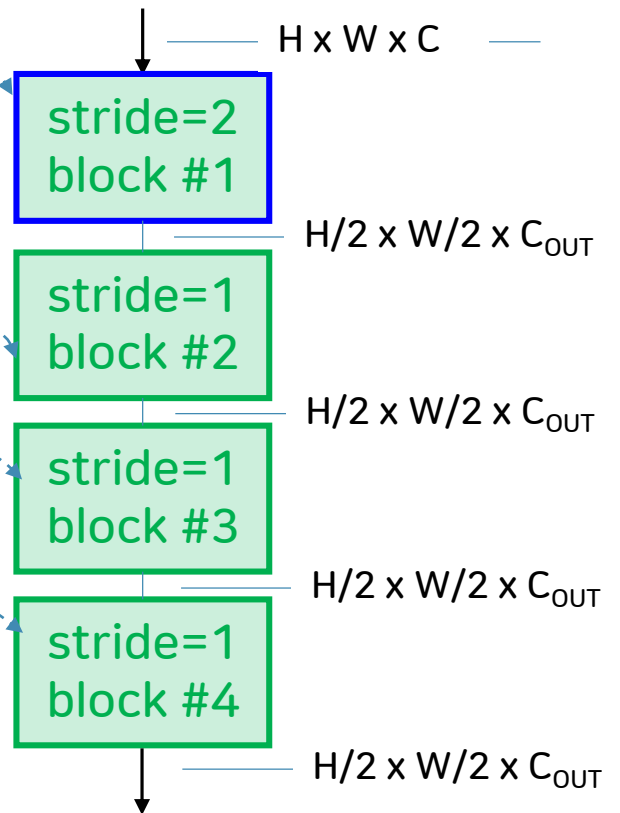


$t=6$, stride = 1 block



$t=6$, stride = 2 block

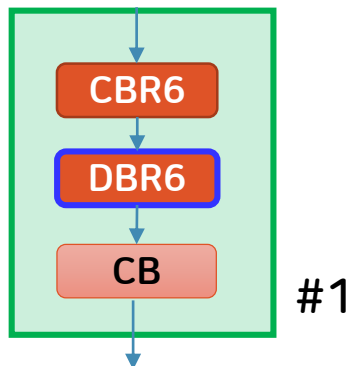
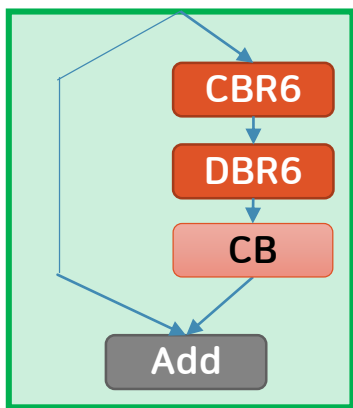
MobileNet V.2에서 사용한 "bottleneck block" 예시



Bottleneck $s=1$, $n=4$

MB,4

AutoNN
Notation



#1

