bit ops: $a$-bit Act  $w$-bit Weight

Assume mul: $2mn$  accumulation: $(m+n)\lceil \log N \rceil$

$N$: # of accumulation of layer

Conv: $k^2 C_{in}$  $C_{out}$ $H_{out}$ $W_{out}$  $\boxed{mul}$

$(k^2 C_{in} - 1)$ $C_{out}$ $H_{out}$ $W_{out}$ $\boxed{acc}$  $N = k^2 C_{in}$

FC: $C_{in} C_{out}$  $\boxed{mul}$

$(C_{in} - 1) C_{out}$  $\boxed{acc}$  $N = C_{in}$

$\overset{\text{same}}{\longleftarrow}$



layer 1 $f_1$
layer 1 $f_2$
layer 2 $f_1$
layer 2 $f_2$
$\vdots$
layer N $f_1$
layer N $f_2$