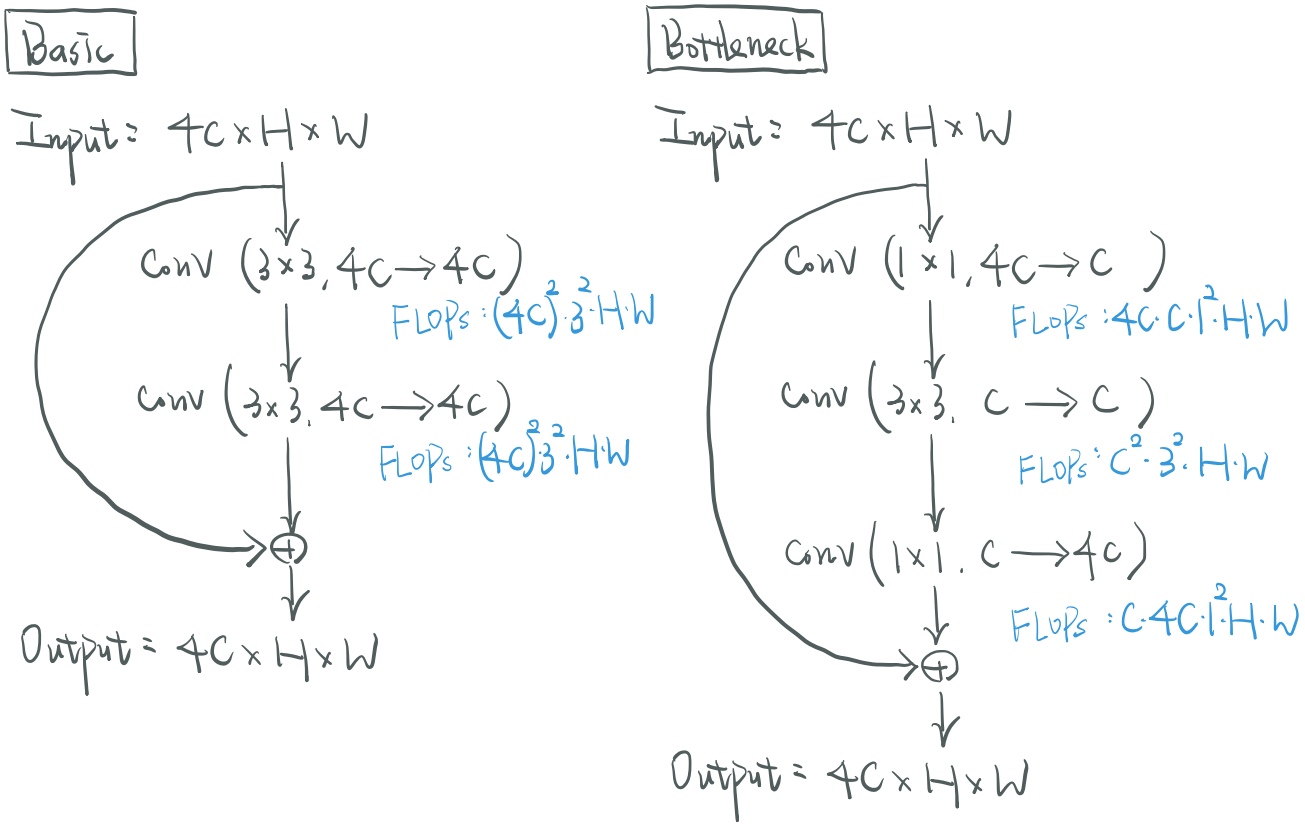
Name: **Student ID**:

Quiz 9

1. Please sketch the architecture of the "Basic" and "Bottleneck" Residual blocks.
2. Please compare their flops and provide a reason of using the Bottleneck Residual block.
   Hint. Please see Lecture-09 pp.92–94.

1.

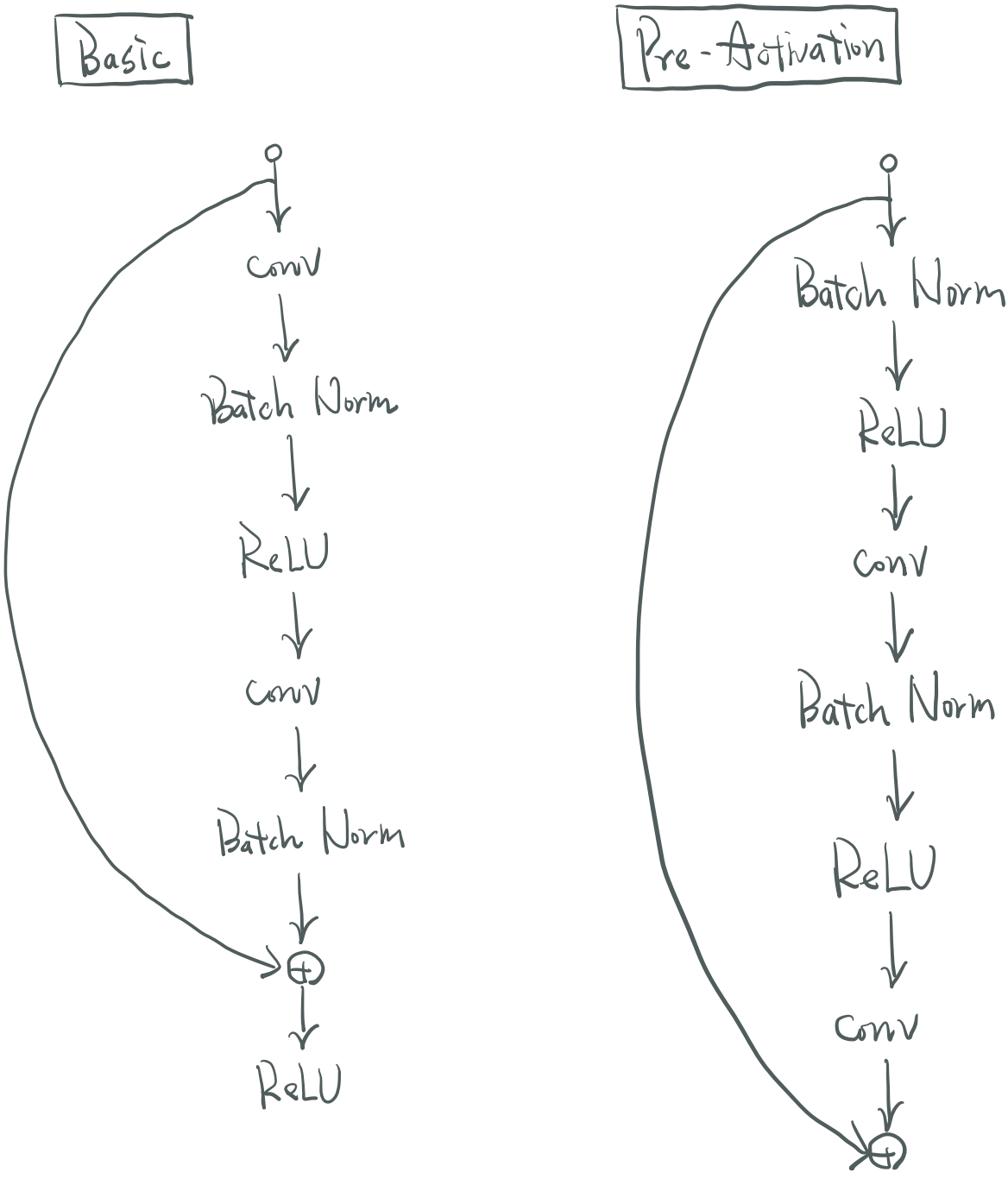


2. Basic: $288C^2HW$
   Bottleneck: $17C^2HW$ $\Rightarrow$ Bottleneck Residual Block has less computational cost.

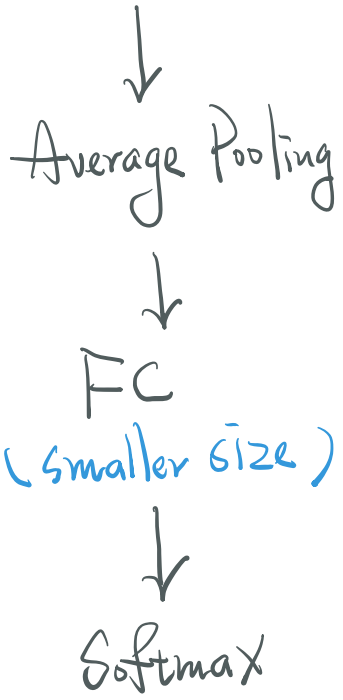
3. Please sketch the architecture of the "Pre-Activation" ResNet Block.

   Hint. Please see Lecture-09 p.100.

   He et al, "Identity mappings in deep residual networks", ECCV 2016, https://arxiv.org/abs/1603.05027



4. Please sketch the architecture of the global average pooling used at the end of Residual Network. **Hint.** Please see Lecture-09 p.87.



global average pooling:
avoid large fully connected layer.