Question 1

Mo Tu We Th Fr Sa Su

Meme No.

Date / /

① @ $(H-M+1) \times (W-N+1)$

· ⑥ $M \in R^{H'W' \times HW}$

$H' = H-M+1$

$W' = W-N+1$

$z' = M' \cdot x'$

let's assume there is a matrix $M \in R^{H'W' \times HW}$ such that $z' = M \cdot x'$ if we assume that the elements of the matrix M are equal in each row, then each jth element of i^{th} row will be equal to ~~sum(x')~~ $M_{ij} = \frac{z'_i}{sum(x')}$

ⓒ convolutional_network

$M \times N$

fully connected network

$(H \times W \times (H-M+1) \times (W-N+1)) + ((H-M+1) \times (W-N+1) \times \left(\left[\frac{H-M+1}{2}\right] \times \left[\frac{W-N+1}{2}\right]\right))$

first one

second one

② $Q = x' \cdot W_Q = x'$

$K = x' \cdot W_K = x'$

$V = x' \cdot W_V = x'$

$Att\_prob = softmax\left(\frac{Q \cdot K^T}{\sqrt{M \cdot N}}\right)$

$Att\_out = softmax\left(\frac{Q \cdot K^T}{\sqrt{M \cdot N}}\right) \cdot V$