

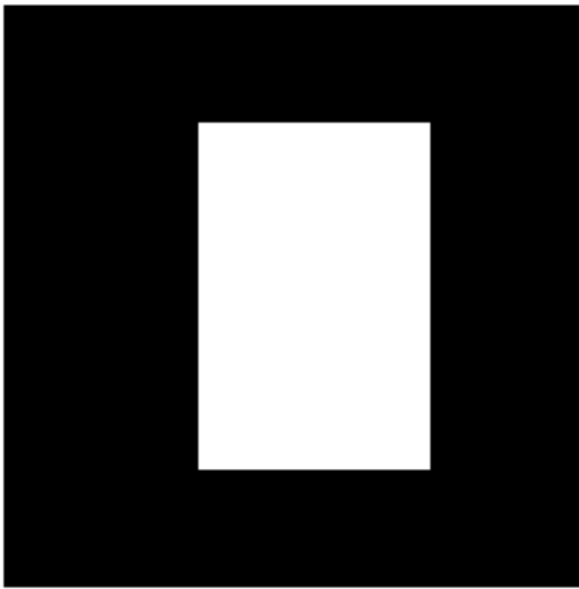
به نام خدا

امیررضا رجبی

۹۸۳۱۱۲۶

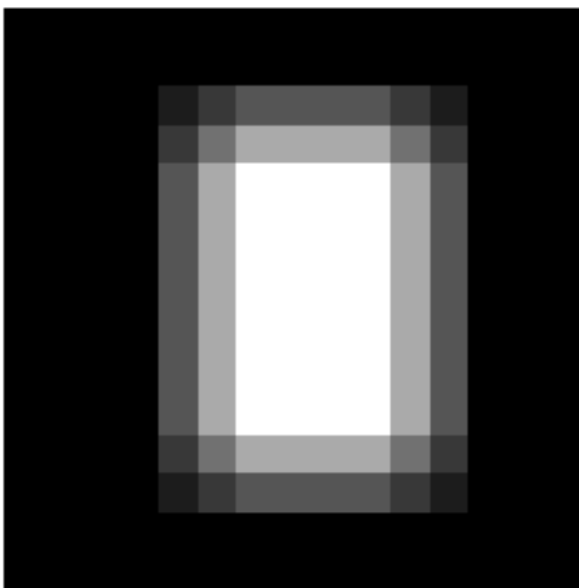
تمرین پنج پردازش تصویر

سوال یک)



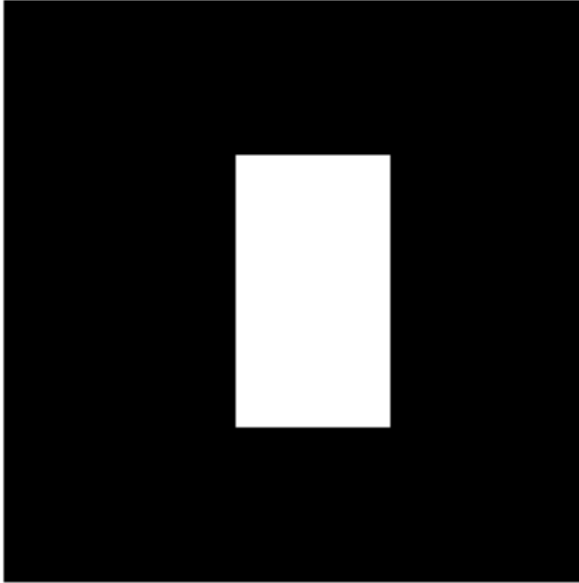
15x15, 6x9

$$\text{arithmeticMean} = \frac{1}{MN} \sum_i \sum_j \text{img}(i, j)$$



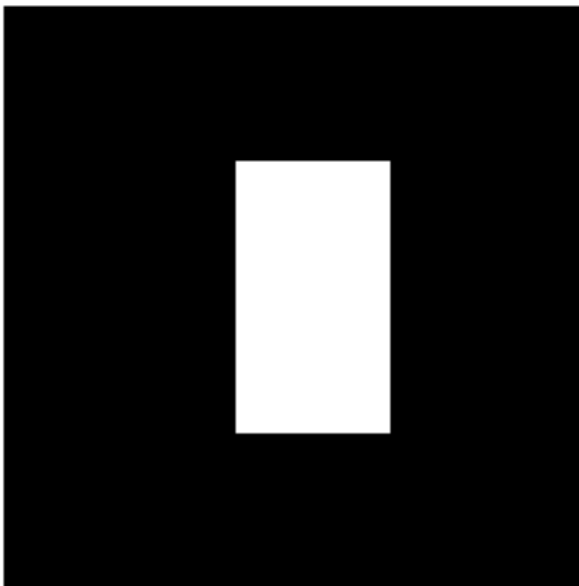
15x15, 8x11

$$\text{geometricMean} = \sqrt[MN]{\prod_i \prod_j \text{img}(i,j)}$$

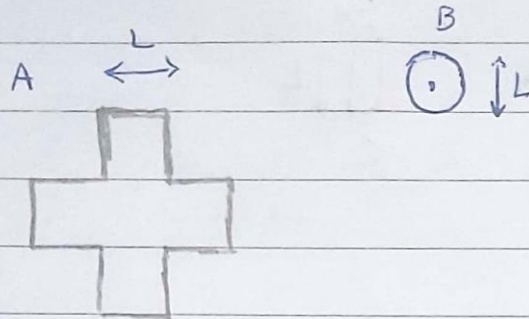


15x15, 4x7

$$\text{harmonicMean} = \frac{MN}{\sum_i \sum_j \frac{1}{\text{img}(i,j)}}$$

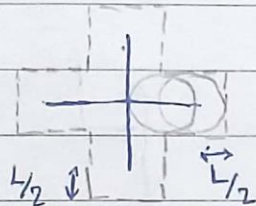


15x15, 4x7

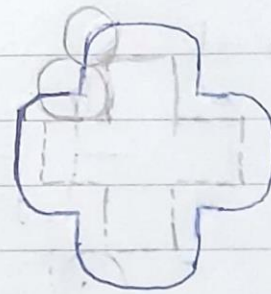


سوال ۲
ورودی ها بزرگ مثل
و خروجی بزرگ آبی
و میله ها بزرگ مثل است

$A \ominus B$

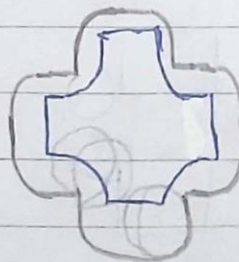
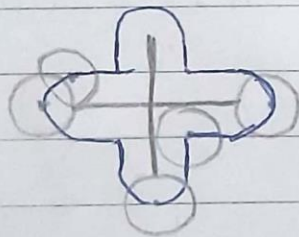


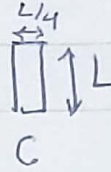
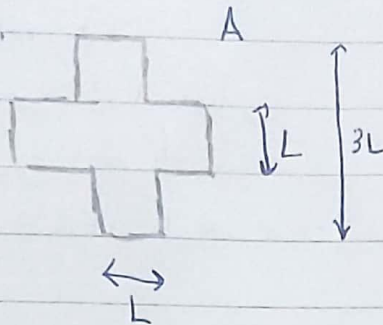
$A \oplus B$



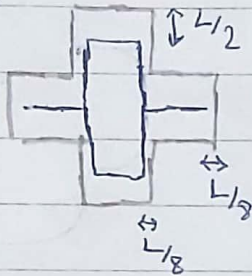
$$A \circ B = (A \ominus B) \oplus B$$

$$A \cdot B = (A \oplus B) \ominus B$$

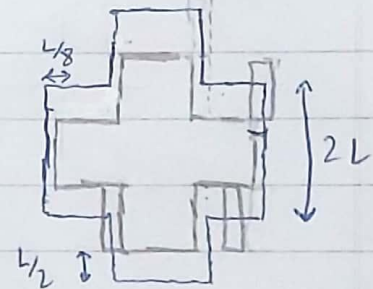




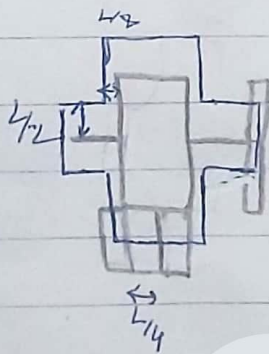
$$A \ominus C$$



$$A \oplus C$$



$$A \circ C = (A \ominus C) \oplus C$$



$$A \bullet C = (A \oplus C) \ominus C$$

