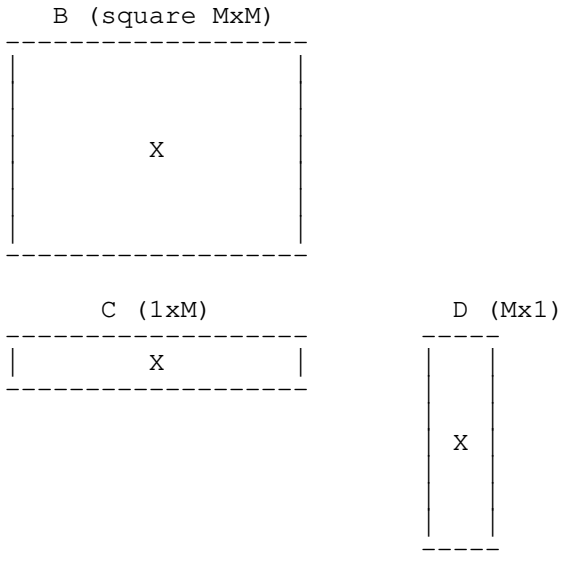

Exercise 02d In this exercise we are going to compare the number of operations in two alternatives for computing a morphological dilation with structuring element.

Let B be the MxM square structuring element.
Let C be the 1xM 1-D horizontal structuring element:
Let D be the Mx1 1-D vertical structuring element.



Note: - The number of pixels of B is MxM
      - The number of pixels of C and D is M.

'X' denotes the origin of coordinates or center of the structuring element. B, C and D are centered structuring elements.

It can be observed that the following property holds:
B = dilate_C (D) = dilate_D (C).

Estimate the number or 'max' operations that must be computed in order to process a NxN square input image using the following alternatives:
dilate_B (I))
dilate_C(dilate_D (I)))

Border effects should not be considered for simplicity, i.e., all image pixels should be treated in the same manner.
