Spatial Correlation and Convolution

A. Function implementation

- Implement an algorithm named Cor_Conv to perform convolution/correlation that was discussed in section 3.4.2
- The function should take the input image, filter matrix, and integer value that specifies the function of the algorithm as follows
  - If the integer is value 1 it will perform correlation
  - If the integer value is 0 it will perform convolution

Function output=Cor_Conv(in, filter, type)
End

- The function should output the image that was convolved or correlated with the same size as the input image.

B. Application

- You have an image with dark background and some light single pixels (fig1), replace every light pixel with the shape shown in the (figure2) using the function that was implemented in the upper part.
- Use the upper function and appropriate mask to make the resulted image (figure 3) to appear as the image in (figure 4), explain why did you choose such filter?.

![Figure 1. Input image](image1)

![Figure 2. Desired shape](image2)
Figure 3. reshaped image

Figure 4.