1. Multiple Choice Question

Which of the following morphological operations is primarily used to remove small noise while preserving the overall shape of objects?

A) Dilation B) Erosion C) Opening D) Closing

Answer: C) Opening

2. Fill-in-the-Blank Question

In morphological image processing, the process of \_\_\_\_\_\_\_\_\_\_\_ involves expanding object boundaries, while \_\_\_\_\_\_\_\_\_\_\_ shrinks them by removing pixels on object boundaries.

Answer: Dilation involves expanding object boundaries, while Erosion shrinks them by removing pixels on object boundaries.

3. Figure-Based Question

Below is a binary image before and after a morphological operation:



Which morphological operation has been applied in the second image?

Answer: Morphological Gradient