

1. Consider modifying Equation (6.3) from the lecture notes by removing internal forces and making all scalar components of external forces equal to 1, such that you are left with

$$\mathbf{C}^t = \mathbf{C}^{t-1} + \mathbf{N}^{t-1}.$$

Assume you initialize a circular snake with a radius of 40 pixels and iteratively evolve the snake 10 times. What is the area of  $\Omega_{\text{in}}$  (measured in square pixels)?

2. Consider the image `plusplus.png` with data type transformed to double precision by dividing all pixel intensities with 255. Initialize a circular snake with a radius of 180 pixels in the centre of the image. What is the value of  $m_{\text{in}}$ ?
3. For the same image and the same curve, what is the value of  $E_{\text{ext}}$  according to the first equation in the Section 6.1 of the course note?

Submit your answers in a text file with the first three lines formatted as below:

```
inside_area: 55
mean_in: 55
external_energy: 55
display_name: AndersAnd
```