Project 6: Model for the Spread of Infectious Diseases

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The above mentioned grid itself is realized as a $(L+2) \times (L+2)$ heap section of integer values, with L being the sidelength of the quadratic grid where the actual spread of the infection takes place. While this section is technically one-dimensional, it will for simplicity reasons be here refered to as a two-dimensional structure of the given shape. Inside the grid, the following integer values have been used to model the different states of the people within the simulation:

- **0:** this person is susceptible S to the infection

- **1:** the person is infected I

- **2:** the person is recovered R and currently not susceptible

- **-1:** the person is vaccinated V and does not participate in the spread

The grid has been implemented with an edge of ghosts at the top, bottom, left and right border, that are neither infectious nor subject to any updates of the grid — they will permanently take the value **0**.

4 Results and Discussion

4.1 Model for the Spread of Infectious Diseases

4.2 Number of Infected People over Time

4.3 Vaccinated People without Participation in the Spread

5 Supplements