Lab 0

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Short Description of code

The code uses the classes ENEMY and SENSOR. The classes as mentioned in the problem statement about time and grid were ditched because they were trivial and we found it was not beneficial to make classes for just single operations. The class ENEMY has 3 methods, one for each getting the next position when the ENEMY starts out and has to move to the first row, when he needs to move to the last row and when he is somewhere in the middle. The main loop that controls the time is in the MAIN class. The class SENSOR deals with assigning on or off to the cells of the grid.

Variation in time keeping the width constant and varying probability of the cell having its sensor on

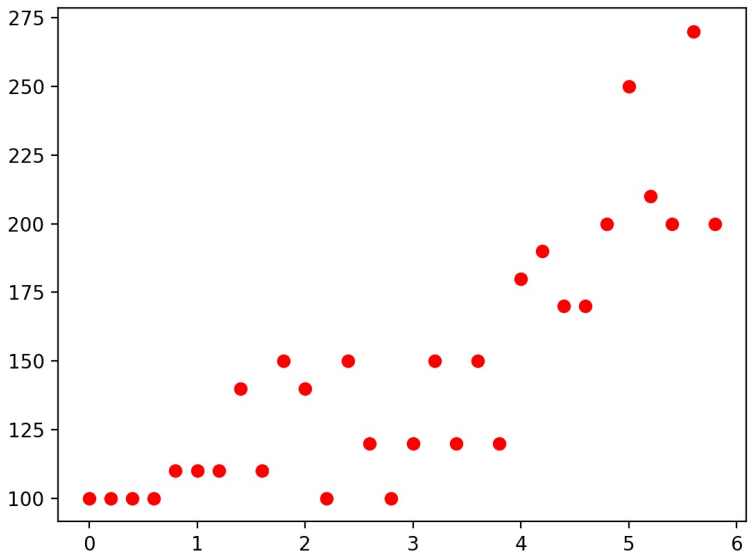

Figure 1: Variation in probability on x-axis with time on y-axis in seconds while keeping the width=10 with a probality step of 0.2

We can say largely that the time increases as the probability of a sensor being on increases although individual values fluctuate.

Variation in time keeping the probability constant and varying width of the cell

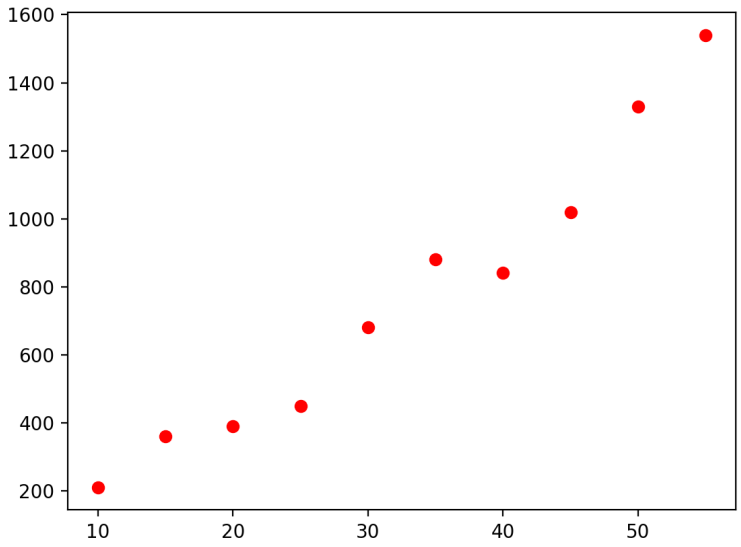

Figure 2: Variation in time on the x-axis in seconds keeping the probability constant at 0.5 and varying width of the cell in steps of 5

We can clearly see a general trend over here that the time increases on increasing the width of the cell.