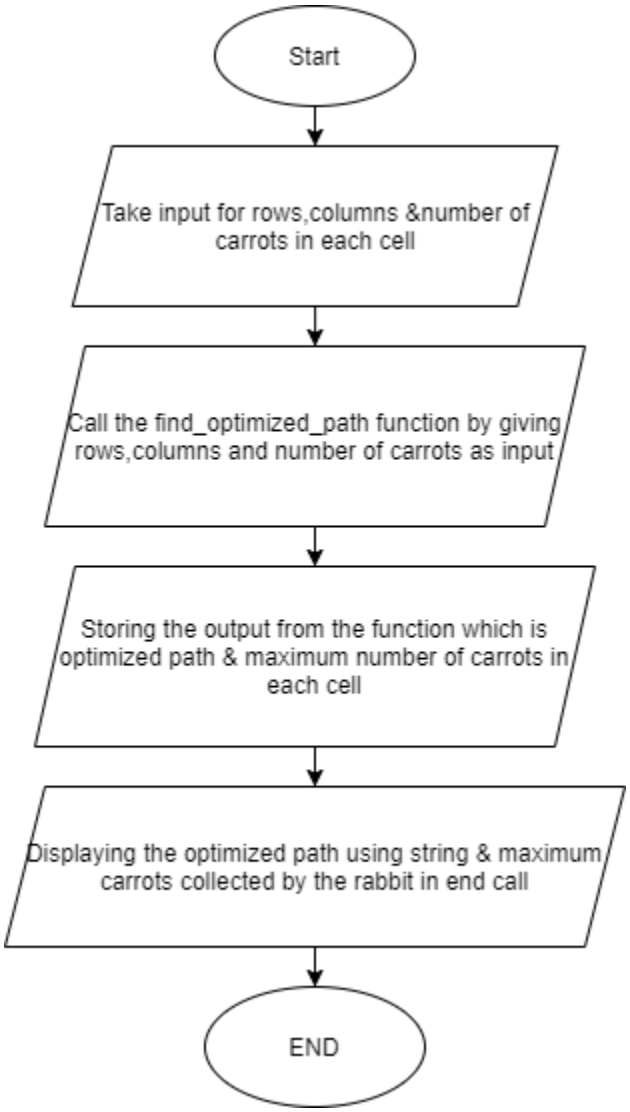
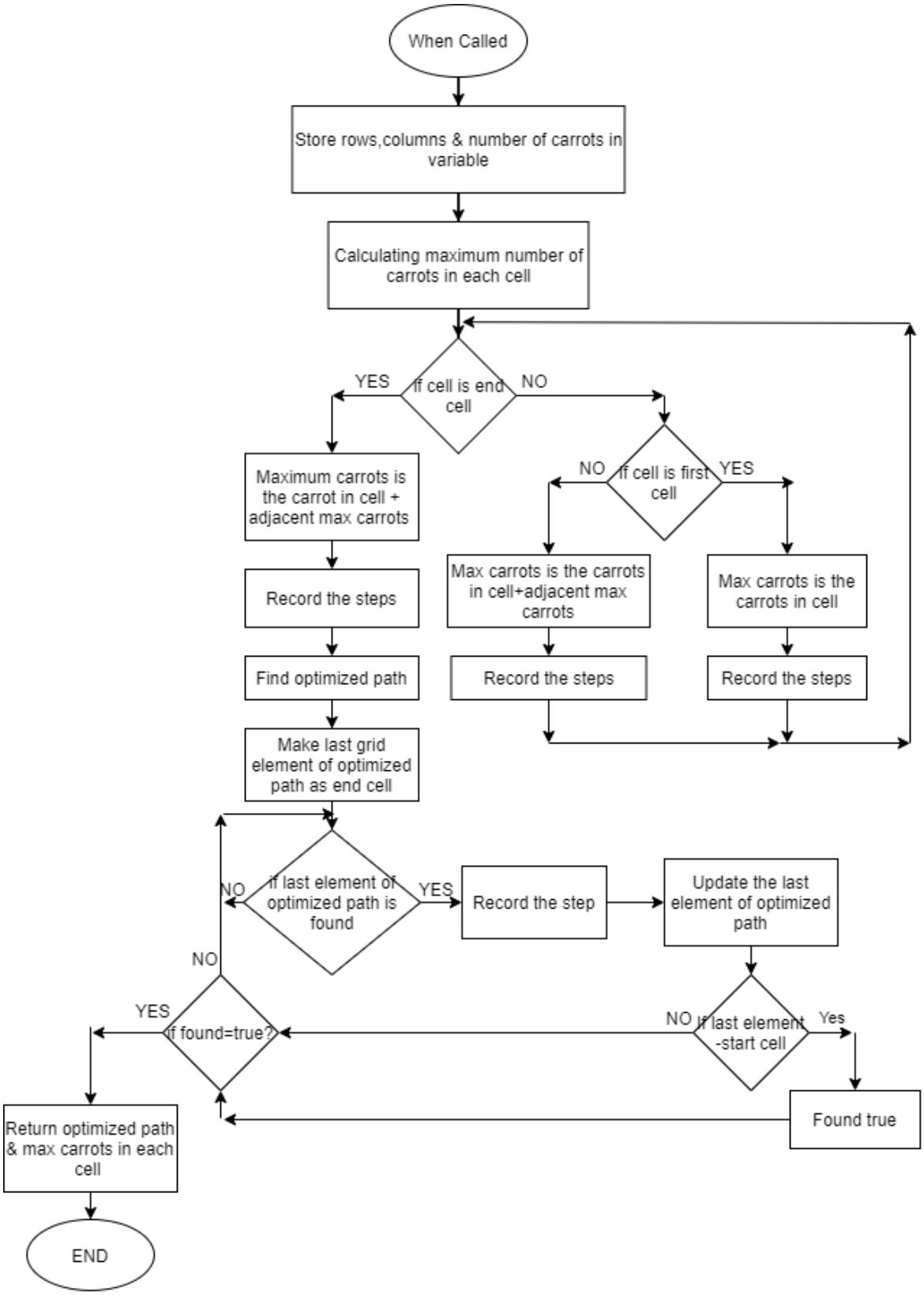
DESIGN DOCUMENT

Structure of Program:

Main Code Flowchart:



Function Code Flowchart:



List of Significant Variables:

- **Rows** (taking rows input)
- **Columns** (taking columns input)
- **number_of_cells** (finding number of cells)
- **carrots_in_cell** (Input values of grids)
- **result** (Store the results)
- **path_row** (variable for paths rows)
- **steps** (calculating total number of steps across all the grid)
- **optimized_path**(1,:) (initializing optimized path)
- **optimized_path_row** (variable for optimized row indexing)
- **found** (boolean if optimized path is detected)

Function:

In this code there is the function name **find_optimized_path** in which 3 variables are passed from the main code and the variables are rows, columns, and carrots_in_cell.

This function will find the maximum carrots/numbers path and send it back to the main code.

In this function first we set the grid 1x1 as maximum value and then check the rows and columns. Then we see the left, right, up and down blocks which block have the highest value. Our path moves to that direction using the for loop until we reach the goal of the matrix.

Then this function displays the path code followed.