



Expand the A* Search to Neighbors

You have now reached the final step of the A* algorithm! You are ready to expand your A* search to neighboring nodes and add valid neighbors to the open vector. In this exercise, you will write an `ExpandNeighbors` function that takes care of this functionality for you.

To Complete This Exercise:

Write a function `ExpandNeighbors` that accepts references to the following:

- The current node,
- the open vector,
- the grid, and
- an int array for the goal coordinates.

The `ExpandNeighbors` function should implement the functionality given in the pseudocode below:

```
// TODO: ExpandNeighbors {  
  
    // TODO: Get current node's data.  
  
    // TODO: Loop through current node's potential neighbors.  
  
        // TODO: Check that the potential neighbor's x2 and y2 values are on the grid and are not visited.  
  
        // TODO: Increment g value, compute h value, and add neighbor to open list.  
  
    // } TODO: End function
```

Note: we have provided directional deltas in the form of a 2D `array`. An array is a C++ container much like a vector, although without the ability to change size after initialization. Arrays can be accessed and iterated over just as vectors.

In the exercise, you can iterate over these `delta` values to check the neighbors in each direction: