**Part A:**

**Question 1:**

The time complexity is O(n)

**Question 2:**

The time complexity is O(1)

**Question 3:**

The time complexity is O(n)

**Question 4:**

The time complexity is O(n^2)

**Question 5:**

The time complexity is O(n)

**Question 6:**

The left image is the input and the right image is the output

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**Question 7:**

The time complexity is O(1)

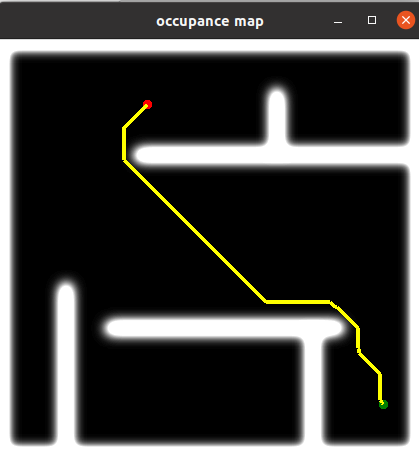
**Question 8:**

The time complexity is O(1)

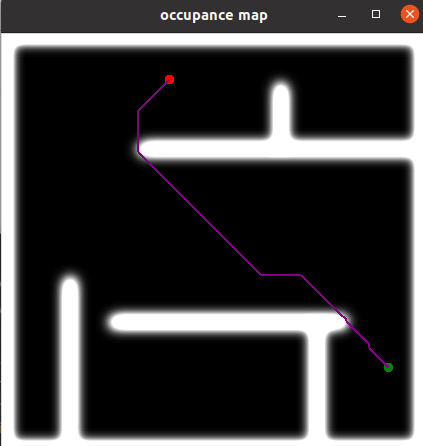
**Part B:**

**[a] Star occupancy**

**1)**

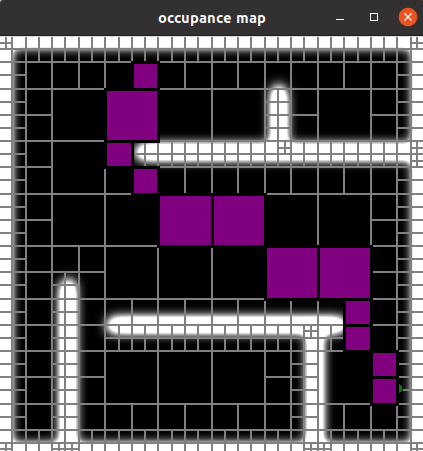
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**2)**

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**[b] Quadtree**

**3)**

****

**4)**

