Training

Empty grid ← (with obstacles)

↓

$$\begin{bmatrix} -1 & 0 & -1 \\ 0 & -1 & 0 \\ 0 & -1 & 0 \end{bmatrix}$$

⇓

Place drones so that the grid gets filled
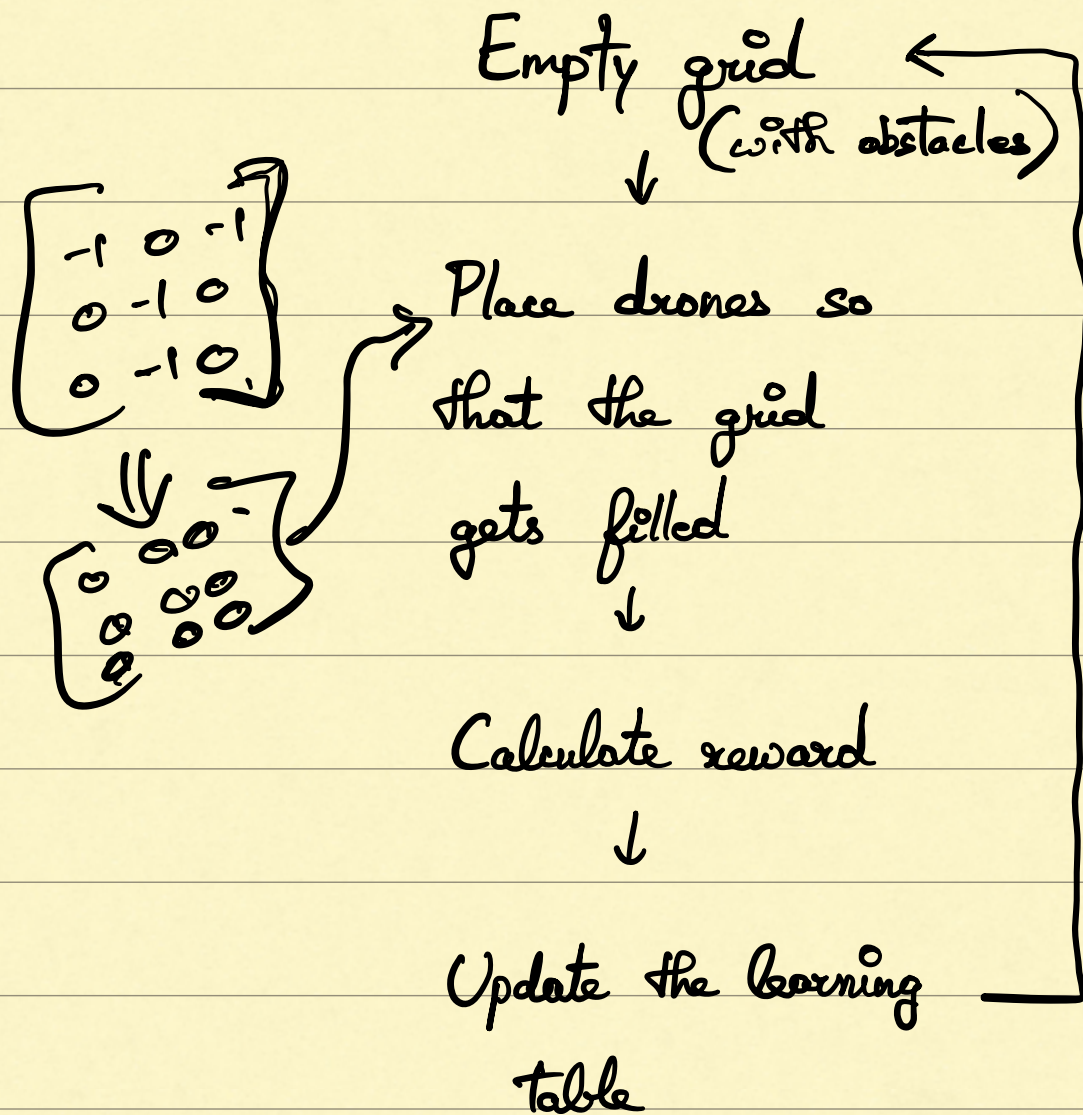
↓

Calculate reward

↓

Update the learning table

Things to consider for reward: (Pending)

- Number of drones used (less = more reward)

- Overlapping (less = more reward)

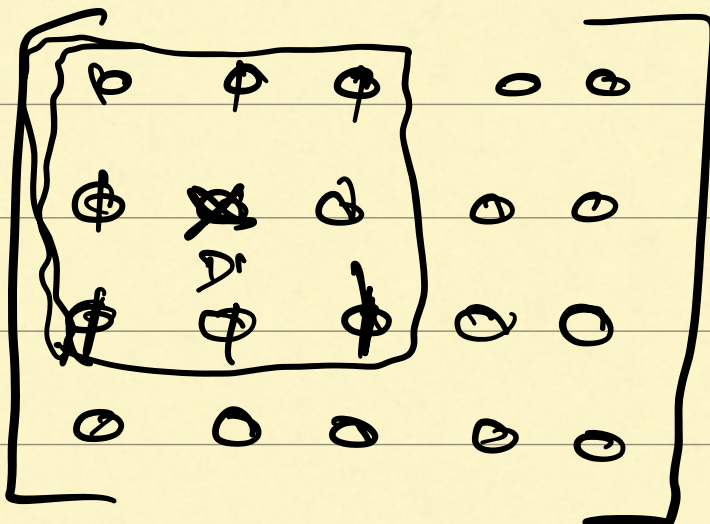- If grid not filled (reward × -1)

Test

Take the q-learning
table

↓

Empty grid

↓

Place drones (get the drones pos)

Get the grid info

$$DI \rightarrow (1,1)(3 \times 3)$$

$$\frac{DI(1,1)}{T} \frac{3}{T}$$

(0,0) (0,1) (0,2) (1,0) (1,1) (1,2) (2,0) (2,1) (2,2)

Getting the grid info
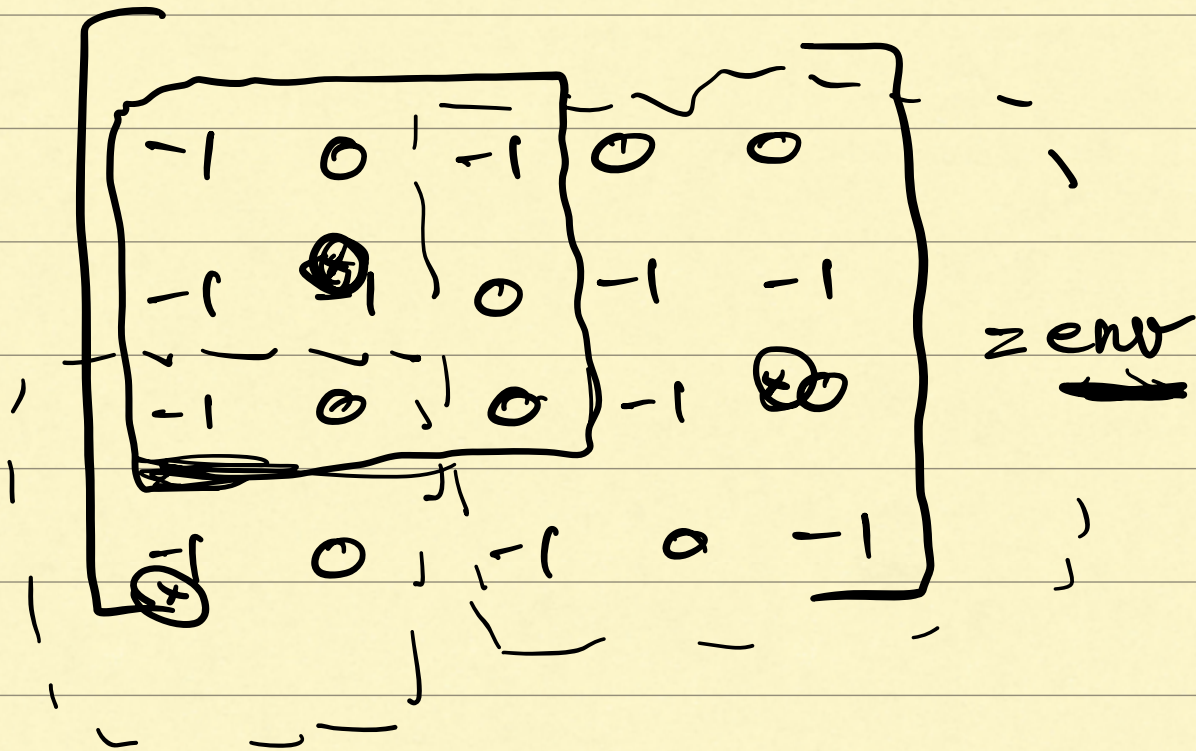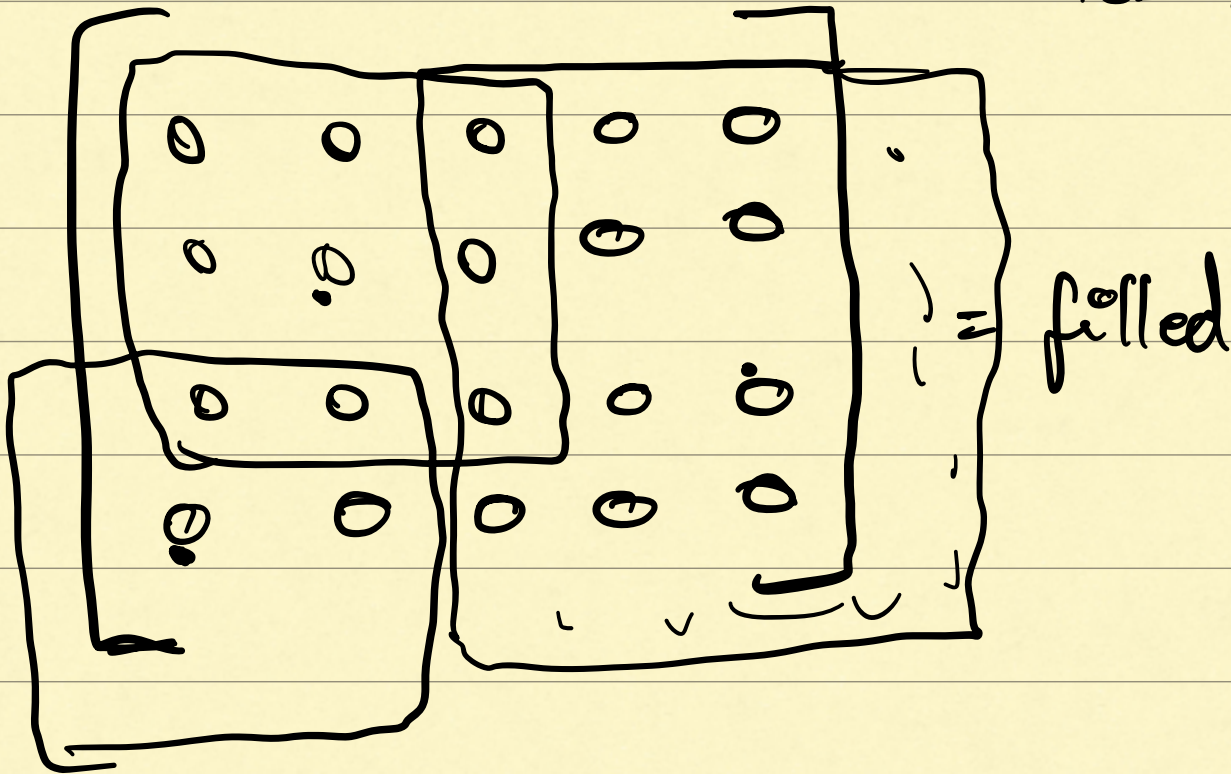
Get drone position, (grid) what the drone sees

↓

Stitch them together

↓

route

Route

Do DDS to find path

= filled

= zero

$(D1, (1,1) 3, | D2, (3,5) 5, | D3, 4, 0, 3)$