Creating a grid 3D&Assignweight

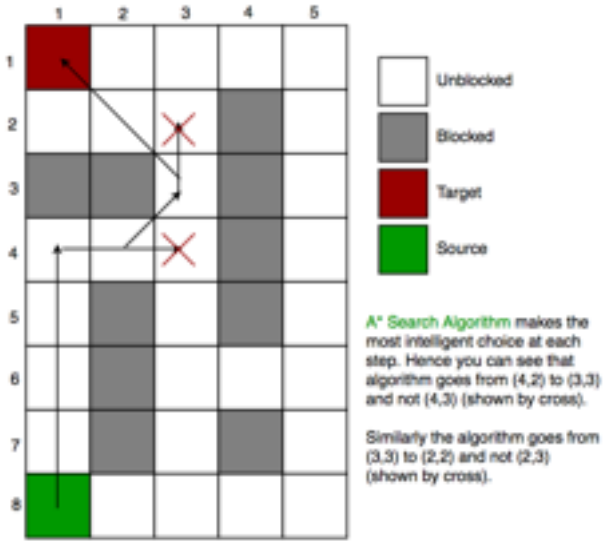
1. To create a 3d grid of points (x,y,z)from)(0,0,0)to(100,100,100)
   There is a python code to generate the grid .by using numpy

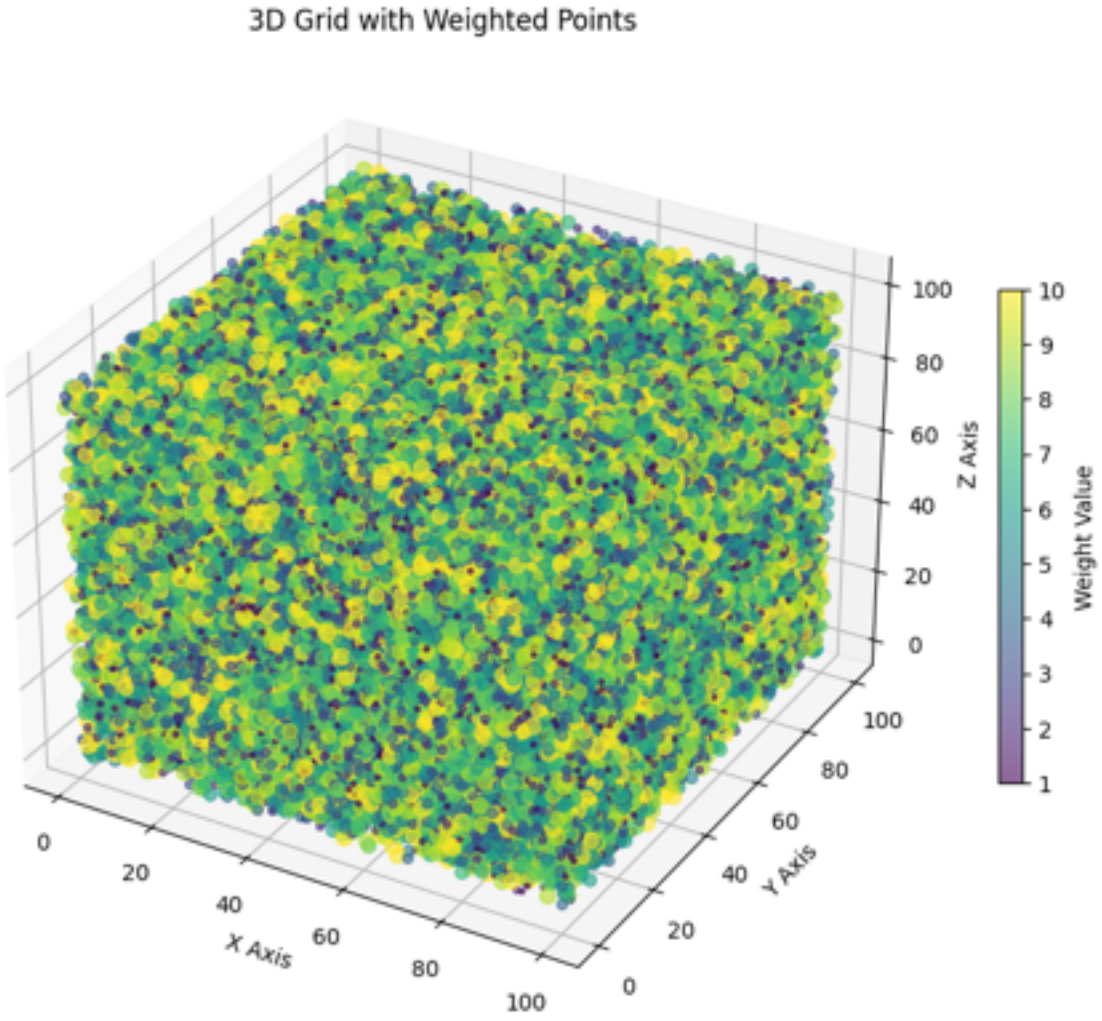
   It generates the 101 cube (1030301)points

2.Assign the weights

   There is a python code to assign the weights
   It creates a 3d grid
   initilize all weights to 0
   Randomly select 10%of points to have non zero weights

3. find the shortest path
   The shortest path is calculated by considering weights
   1.Dijkstar's Algorithm
   2.A* algorithm





A* is used to compute the shortest path considering weights
Time expanded collision avoidance ensure that path don't overlap at the same time
The 3d plot visualise path for each with an unique colour

2. Drone in auto mode using way points

1. Define the way points (15 waypoints)
   waypoints will be stored in *latitude,longitude,and altitude*

2. plan mission in auto mode
   by using Dronekit/PYMAVLink

After reaching the 10th waypoint,add a new waypoint 100 meters perpendicular to current direction

The drone lands at the final waypoint