3. Select location from while loop

while

We need k location to cover k points means No instance:

If the alg says NO , then there are no k center that can cover the locations,

If there is a location l\_ k+1 that covers all the points -> then k centers

For the k centers: show need k centers by showing that each pairwise point is greater than r away from any location. Which means distance between any two locations are greater than 2r away

If NO: there is no k centers that can cover all the points with radius r. The fact that there are not k centers; there are k+1 locations, there are no k centers that can cover the k+1 locations with radius r.

Want to prove that: distance between any two pairwise locations is > 2r. To show this it is given by while loop construction, then use triangular inequality.