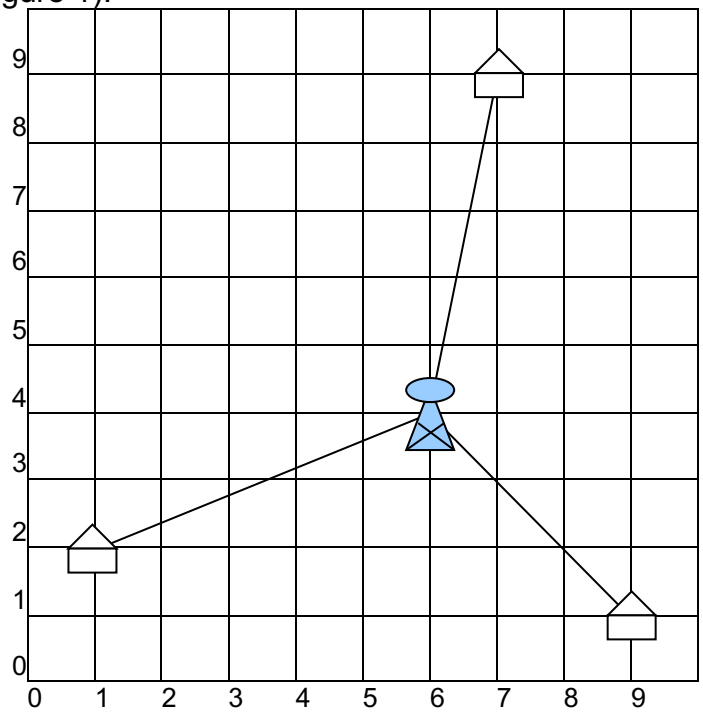
CS225 Arrays Lab – Water Tower

Create a C++ program that determines best location of a water tower based on the location of three houses within a 15 by 15 grid.

User Requirements

- Your program will ask the user to enter the X and Y axis locations of three houses (see figure 1).



Software Requirements

- You must create a function called calcDistance that receives as parameters the X and Y tower location and a house X and Y location. The function shall return the distance between the water tower location and the house location.
- You must create a 2D array called gridArray that stores the total distance from each of the three houses to the water tower as it moves to every point on the grid. Search the 2D array to find minimal total distance.

```
House 1 x axis pos: 10
House 1 y axis pos: 10

House 2 x axis pos: 1
House 2 y axis pos: 1

House 3 x axis pos: 1
House 3 y axis pos: 10

The best location for the tower is at (3,8) yielding a minimum
total distance of 17.3886
```

Figure 1