

Solution 1Solution 2Solution 3

```
1  # Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3  # O(n^2) time | O(n) space - where n is the number of coordinates
4  def rectangleMania(coords):
5      coordsTable = getCoordsTable(coords)
6      return getRectangleCount(coords, coordsTable)
7
8
9  def getCoordsTable(coords):
10     coordsTable = {}
11     for coord in coords:
12         coordString = coordToString(coord)
13         coordsTable[coordString] = True
14     return coordsTable
15
16
17 def getRectangleCount(coords, coordsTable):
18     rectangleCount = 0
19     for x1, y1 in coords:
20         for x2, y2 in coords:
21             if not isInUpperRight([x1, y1], [x2, y2]):
22                 continue
23             upperCoordString = coordToString([x1, y2])
24             rightCoordString = coordToString([x2, y1])
25             if upperCoordString in coordsTable and rightCoordString in coordsTable:
26                 rectangleCount += 1
27     return rectangleCount
28
29
30 def isInUpperRight(coord1, coord2):
31     x1, y1 = coord1
32     x2, y2 = coord2
33     return x2 > x1 and y2 > y1
34
35
36 def coordToString(coord):
37     x, y = coord
38     return str(x) + "-" + str(y)
39
```

