Middle element equals to Key

Middle element is less than key

2a) search submatrix on lower side of middle element . Marked in green

2b) Search submatrix on right hand side.of middle element . Marked in orange

Middle element is greater than key

3a) search vertical submatrix on left side of middle element.Marked in green

3b) search submatrix on right hand side.Marked in orange

We created 3 partitiions here because each of these calls must have a decreasing or increasing coord point