**Test Case 1**

**Sample Input:**

Enter the size of Matrix :4

Enter no. of entries8

Enter row, column and value of entry0 0 1

1 2 2

1 3 1

2 1 1

2 3 2

3 0 2

3 1 4

0 2 3

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|1 0|3 0|

|0 0|2 1|

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|0 1|0 2|

|2 4|0 0|

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would you like to modify anything? Y/nn

**Output:**

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|1 2|3 4|

|4 3|2 1|

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|3 1|4 2|

|2 4|1 3|

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**Test Case 2**

**Sample Input:**

Enter the size of Matrix:9

Enter no. of entries17

Enter row, column and value of entry0

3

8

0

5

1

1

6

4

1

7

3

2

0

5

3

4

7

3

6

8

4

6

1

5

1

2

5

5

3

6

0

6

6

7

7

6

8

5

7

2

3

7

3

4

8

3

2

8

6

6

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|0 0 0|8 0 1|0 0 0|

|0 0 0|0 0 0|4 3 0|

|5 0 0|0 0 0|0 0 0|

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|0 0 0|0 7 0|8 0 0|

|0 0 0|0 0 0|1 0 0|

|0 2 0|0 0 3|0 0 0|

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|6 0 0|0 0 0|0 7 5|

|0 0 3|4 0 0|0 0 0|

|0 0 0|2 0 0|6 0 0|

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**Output:**

would you like to modify anything? Y/nn

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|2 3 4|8 6 1|5 9 7|

|1 6 9|7 2 5|4 3 8|

|5 7 8|3 4 9|2 1 6|

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|3 1 5|9 7 4|8 6 2|

|4 9 7|6 8 2|1 5 3|

|8 2 6|5 1 3|7 4 9|

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|6 4 2|1 9 8|3 7 5|

|7 8 3|4 5 6|9 2 1|

|9 5 1|2 3 7|6 8 4|

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|  |  |  |
| --- | --- | --- |
| **Function** | **Time Complexity** | **Space Complexity** |
| check\_vert() | O(MAX) | O(1) |
| check\_hor() | O(MAX) | O(1) |
| check\_block() | O(MAX) | O(1) |
| possible() | O(MAX) | O(1) |
| full() | O(MAX^2) | O(1) |
| solve() | O(MAX^n) | O(n) |
| display() | O(MAX^2) | O(1) |
| input() | O(MAX) | O(1) |
| modify() | O(MAX) | O(1) |