

**void insert ()**

**insert function called once and**

**in function in the worse case while will repeat  $n-1$  (the number of node) times that in the worst case can be column -1 so complexity is :  $O(n)$**

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**Void delete ()**

**delete function called once and in worse case while will repeat column-1 and in this while remove function from linklist will be called that remove function have while with column-1 repeat so complexity is :  $O(n^2)$**

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**Void search ()**

**Search function will be called once and in this function there is a while in a for that repeat  $(row-1)(col-1)$  so complexity is :  $O(nm)$**

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**Void update ()**

**Update function will be called once and in worst case while will be repeat  $(col-1)$  so complexity is :  $O(n)$**

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**Void print ()**

**Print type 0 have three for in for and while in for that repeat is  $(row-1)(col-1)$  and complexity is :  $O(nm)$**

**Print type 1 have one while in for that repeat  $(row-1)(col-1)$  and complexity is :  $O(nm)$**

**So totally print function complexity is :  $O(nm)$**

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**Void savetofile ()**

**Save function work same as print type 0 and have three for in for and while in for so repeat like  $(row-1)(col-1)$  and the complexity is :  $O(nm)$**