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Insertion Sort
(Best case time complexity)

1) for i=2 to string length(n)
    {
2)   Key = A[i]

3)   j = i-1

4)   while j>0 and A[j]>key
     {

5)   A[j+1] = A[j]

6)   j = i-1
     }

7)   A[j+J] = key

Example:-

| 10 | 20 | 30 | 40 | 50 |

(n=5)

If cost of line 4 and 7 is c_4 and c_7 resp. th

$T(5) = c_4 \times 5 + c_7 \times 5 = c_5$

for general

$T(n) = c_4 \simeq O(n)$

Modification to reduce time complexity of insertion sort.

Binary Insertion sort:- In this case we binary use senrach algorithm to find out the correct position of the inserted element in the array.