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| DS – Searching & Sorting  [2022] |  |
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Algorithm

# Insertion Sort:

1. Start
2. Input the value of n.
3. Take an array a[] of n elements.
4. Input n elements in array a[].
5. Initialize, i = 2.
6. Go through steps 7, 8, 9, 13 while i <= n.
7. Set j = i – 1.
8. Set key = a[i].
9. Go through steps 10, 11, 12 while key <= a[j] and j >= 1.
10. Set a[j+1] = a[j].
11. Set a[j] = key.
12. Set j = j – 1.

[End of Step 9 while]

1. Set i = i + 1.

[End of Step 6 while]

1. Print n elements of array a[].
2. End.

# Selection Sort:

1. Start
2. Input the value of n.
3. Take an array x[] size of n elements.
4. Input n elements in array x[].
5. Initialize, i = n -1.
6. Go through steps 7, 8, 9, 10, 13, 14, 15 while i >= 1.
7. Set max = x[0].
8. Set index = 0.
9. Initialize, j = 1.
10. Go through steps 11, 12 while j <= i.
11. If x[j] > max

Then

Set max = x[j].

Set index = j.

[End of if]

1. Set j = j + 1.

[End of Step 10 while]

1. Set x[index] = x[i].
2. Set x[i] = max.
3. Set i = i – 1.

[End of Step 6 while]

1. Print n elements of array x[].
2. End.