

Insertion Sort

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Temp
44

[0]	[1]	[2]	[3]	[4]	[5]
55	44	22	66	11	33

j i

Arr[j] > temp
55 > 44
Shift arr[j] to j+1

[0]	[1]	[2]	[3]	[4]	[5]
	55	22	66	11	33

j i

j--

[0]	[1]	[2]	[3]	[4]	[5]
44	55	22	66	11	33

As j is at invalid index,
copy temp to j+1

Temp
22

[0]	[1]	[2]	[3]	[4]	[5]
44	55	22	66	11	33

j i

55 > 22 ? Yes
Shift 55 to j+1

[0]	[1]	[2]	[3]	[4]	[5]
44		55	66	11	33

j i

44 > 22 ? Yes
Shift 44 to j+1

[0]	[1]	[2]	[3]	[4]	[5]
	44	55	66	11	33

j i

As j is at invalid
position
Copy temp to j+1

Temp
66

[0]	[1]	[2]	[3]	[4]	[5]
22	44	55	66	11	33

j i

Arr[j] > temp

Temp
11

[0]	[1]	[2]	[3]	[4]	[5]
22	44	55	66	11	33

j i

66 > 11 ? Yes
Shift 66 to j+1
j--

[0]	[1]	[2]	[3]	[4]	[5]
22	44	55		66	33

j i

55 > 11 yes
Shift 55 to j+1
j--

[0]	[1]	[2]	[3]	[4]	[5]
22	44		55	66	33

44 > 11 ? Yes
Shift 44 to i+1

[0]	[1]	[2]	[3]	[4]	[5]
22	44		55	66	33

j

i

44 > 11 ? Yes
Shift 44 to j+1
j--

[0]	[1]	[2]	[3]	[4]	[5]
22		44	55	66	33

j

i

22 > 11 ? Yes
Shift 22 to j+1
j--

[0]	[1]	[2]	[3]	[4]	[5]
11	22	44	55	66	33

j

i

Copy temp to
j+1

Temp
33

[0]	[1]	[2]	[3]	[4]	[5]
11	22	44	55	66	33

j

i

66 > 33 ? Yes
Shift 66 to j+1
j--

[0]	[1]	[2]	[3]	[4]	[5]
11	22	44	55		66

j

i

55 > 33 ? Yes
Shift 55 to j+1
j--

[0]	[1]	[2]	[3]	[4]	[5]
11	22	44		55	66

j

i

44 > 33 ? Yes
Shift 44 to j+1
j--

[0]	[1]	[2]	[3]	[4]	[5]
11	22	33	44	55	66

j

i

22 > 33 ? No

Copy temp to j+1

Check 2 conditions : is j at valid index and is arr[j] > temp

If both conditions are true perform 2 steps

- 1) Shift arr[j] to j+1
- 2) Decrement j

Else

Copy temp to j+1