

Proje 1:

\* [22, 27, 16, 2, 18, 6]

1) Insertion sort aşamaları:

[22, 27, 16, 2, 18, 6]



first lowest case is 2

[2, 27, 16, 22, 18, 6]

2<sup>nd</sup> lowest case is 6

[2, 6, 16, 22, 18, 27]

3<sup>rd</sup> lowest case 16 & its in right order



4<sup>th</sup> lowest case is 18

[2, 6, 16, 18, 22, 27]

5<sup>th</sup> lowest case 22 & its in right order

Final sorting: [2, 6, 16, 18, 22, 27]

2) Big O( $n^2$ ) comes from  $\frac{n^2+n}{2}$

which has worse case =  $\frac{36+6}{2} = 21$

3) Sorting has average case

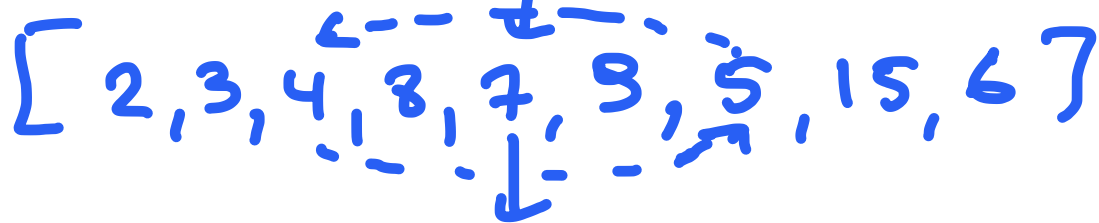
4) 18 is included in 4<sup>th</sup> case

\* First 4 cases of insertion sorting  
of  $[7, 3, 5, 8, 2, 9, 4, 15, 6]$   
1<sup>st</sup> lowest case is 2 (1 step)

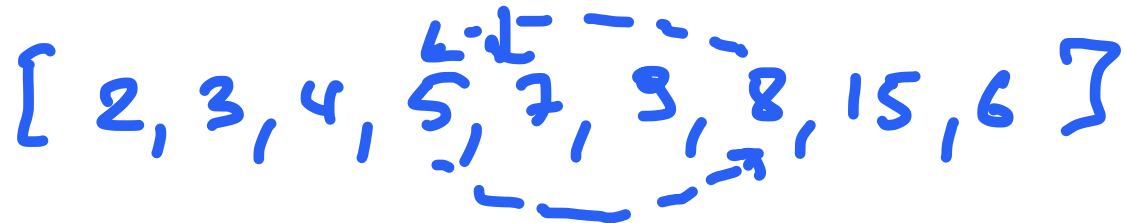
  
 $[2, 3, 5, 8, 7, 9, 4, 15, 6]$

2<sup>nd</sup> lowest case is 3 & it's in right order (2 step)

3<sup>rd</sup> lowest case is 4 (3 step)

  
 $[2, 3, 4, 5, 7, 8, 9, 15, 6]$

4<sup>th</sup> lowest case is 5 (4 step)

  
 $[2, 3, 4, 5, 7, 8, 9, 15, 6]$

