

2.  $a[] = 2 \ 18 \ 1 \ 0 \ 56 \ 76 \ 98 \ 34 \ 12$   
 $n = 9 \rightarrow \text{int } n = \text{data Array.length};$

Quick:  
 $a: \begin{matrix} 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 \\ 2 & 18 & 1 & 0 & 56 & 76 & 98 & 34 & 12 \end{matrix}$

$\text{start} = 0;$

$\text{end} = 9 - 1 = 8$

$\text{int } p = \text{Partition}(a, 0, 8);$

Partition:

$a: \begin{matrix} 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 \\ 2 & 18 & 1 & 0 & 56 & 76 & 98 & 34 & 12 \end{matrix}$

$\text{pivot} = a[8] = 12$

$i = 0 - 1 = -1$

$\text{for}(j = 0; j \leq 8)$

$j = 0$

$\text{if}(a[j] < \text{pivot})$

$2 < 12 ? \text{true}$

$j = i + 1$

$i = -1 + 1 = 0;$

$t = a[i]; \rightarrow t = 2;$

$a[i] = a[j]; a[j] = t;$

$a[j] = t; \rightarrow a[j] = 2;$

$j = 1$

$\text{if}(a[j] < 12)$

$18 < 12 ? \text{false}$

$j = 2$

$\text{if}(a[j] < 12)$

$1 < 12 ? \text{true}$

$j = i + 1$

$i = 0 + 1 = 1;$

$t = a[i]; \rightarrow t = 18$

$a[i] = a[j] \rightarrow a[2] = a[1] = 1$

$a[1] = t \rightarrow [1] = 18$

$2, 1, 18, 0, 56, 76, 98, 34, 12$

$j = 3$

$\text{if}(a[j] < 12)$

$0 < 12 ? \text{true}$

$i = 1 + 1 = 2$

$t = a[i]; \rightarrow t = 18$

$a[i] = a[j]$

$a[2] = a[3]$

$a[2] = 0$

$a[3] = t; \rightarrow t = 0$

$2, 18, 0, 1, 56, 76, 98, 34, 12$

$j = 4$

$\text{if}(a[j] < 12)$

$56 < 12 ? \text{false}$

$j = 5$

$\text{if}(a[j] < 12)$

$76 < 12 ? \text{false}$

$j = 6$

$\text{if}(a[j] < 12)$

$98 < 12 ? \text{false}$

$j = 7$

$\text{if}(a[j] < 12)$

$34 < 12 ? \text{false}$

$j = 8$

$\text{if}(a[j] < 12)$

$12 < 12 ? \text{false}$

$\text{int } t = a[i + 1] \rightarrow t = a[2 + 1];$

$t = a[3]$

$t = 1$

$a[i+1] = a[end] \rightarrow a[3] = a[8]$   
 $= 12$

$a[end] = t$

$a[8] = 1$

$\text{return}(i+1) \rightarrow \text{return } 5$

$a = [2, 18, 0, 1, 56, 76, 98, 38, 12]$

$p = 3$ ; (from Return);

$a = [2, 18, 0, 1, 56, 76, 98, 38, 12]$

$\text{start} = 0$

$\text{end} = 8 - 1 = 7$

$\text{pivot} = a[end] = a[7] = 38$

$i = 0 - 1 = -1$

for ( $j = 0$ ;  $j \leq 7$ )

$j = 0$

if ( $a[0] < 38$ )

2 < 38 ? true

if ( $a[1] < 38$ )

18 < 38 ? true

$j = 2$

if ( $a[2] < 38$ )

0 < 38 ? true

$j = 3$

if ( $a[3] < 38$ )

1 < 38 ? true

$j = 4$

if ( $a[4] < 38$ )

56 < 38 ? false

$j = 5$

if ( $a[5] < 38$ )

76 < 38 ? false

$j = 6$

if ( $a[6] < 38$ )

98 < 38 ? false

$j = 7$

if ( $a[7] < 38$ )

38 < 38 ? false

$j = 8$

if ( $a[8] < 0$ )

12 < 0 ? false

int  $t = a[i+1]$

$t = a[-1+1]$

$t = a[0]$

$t = 2$

$a[i+1] = a[end]$

$a[0] = a[2]$

$a[0] = 0$

$a[end] = t \rightarrow a[2] =$

$\text{return}(-1+1) \rightarrow \text{return}(0)$

$a = [2, 18, 0, 1, 56, 76, 98, 38, 12]$

Jadi, urutan yang terjadi pada saat  $p = 5$  adalah

$\sim (2, 18, 0, 1, 56, 76, 98, 38, 12)$