

QuickSort Workseet

Partition Array between low and high:

```

pivotValue = value at low
i = low+1 //left maker
j = high //right marker
while i <= j
    while i <= j and a[i] <= pivotValue
        increase i
    while i <= j and a[j] >= pivotValue
        decrease j
    if i < j
        swap values at i and j
        increase i
        decrease j

//POINT A
swap values at low and j
//POINT B
return new location of pivot
    
```

By hand, run the pseudocode. Make sure to keep careful track of i (left marker) and j (right marker).

1) Low = 0

High = 6

0	1	2	3	4	5	6	
12	18	3	20	6	7	15	Circle the pivot
							Show array at POINT A
							Show array at POINT B

What values do i and j have at POINT A?

i =

j =

What variable in the algorithm corresponds to the final location of the pivot?

2) Low = 0

High = 4

0	1	2	3	4	5	6	7	8	
14	18	13	10	17	29	24	22	21	Circle the pivot
									Show array at POINT A
									Show array at POINT B

What values do i and j have at POINT A?

i =

j =

3) Low = 5

High = 8

0	1	2	3	4	5	6	7	8	
10	13	14	17	18	29	24	22	21	Circle the pivot
									Show array at POINT A
									Show array at POINT B

What location is returned?