Quicksort:

1. Using the first number in each (sub)array as a pivot, quicksort the following array:

$$A = \{6, 3, 5, 2, 7, 1, 9\}$$

2. Pretend we have a function called `partition(A, low, hi)` that returns the index where the pivot should go in the subarray from `A[low:hi]`. The pivot should begin at `A[low]`. Write the function:

   ```
   _____ quicksort(A, low, hi) {



   }
   ```

3. Now write the function our helper function. What should the return type be?

   ```
   _____ partition(A, low, hi) {



   }
   ```

4. What is the runtime of quicksort?