

```

function findMedian (arr) {
  const n = arr.length
  const k1 = Math.floor(n/2)
  const median1 = quickSelect(arr, k1)

  if (n%2 == 0) {
    const k2 = Math.floor((n-1)/2)
    const median2 = quickSelect(arr, k2)
    return (median2 + median1)/2
  }
  else return median1
}

function quickSelect (arr, k) {
  return quickSelectHelper(arr, 0, arr.length - 1, k)
}

function quickSelectHelper (arr, low, high, k) {
  if (low <= high) {
    const pos = partition(arr, low, high)

    if (pos > k) {
      return quickSelectHelper(arr, low, pos - 1, k)
    }
    else if (pos < k) {
      return quickSelectHelper(arr, pos + 1, high, k)
    }
    else return arr[pos]
  }
}

function partition (arr, low, high) {
  const pivot = arr[high]
  let i = low - 1

  for (let j=low; j<=high; j++) {
    if (arr[j] < pivot) {
      i++
      swap(arr, i, j)
    }
  }

  swap(arr, i+1, high)
  return i+1
}

function swap (arr, i, j) {
  let t = arr[i]
  arr[i] = arr[j]
  arr[j] = t
}

```

```
console.log (findMedian([8, 5, 2, 9, 4, 3]))
```