// finding the 4th smallest element in unsorted list

class KthSmallst {

int kthSmallest(int arr[], int l, int r, int k) {

if (k > 0 && k <= r - l + 1) {

int pos = randomPartition(arr, l, r);

if (pos - l == k - 1)

return arr[pos];

if (pos - l > k - 1)

return kthSmallest(arr, l, pos - 1, k);

return kthSmallest(arr, pos + 1, r, k - pos + l - 1);

}

return Integer.MAX\_VALUE;

}

void swap(int arr[], int i, int j) {

int temp = arr[i];

arr[i] = arr[j];

arr[j] = temp;

}

int partition(int arr[], int l, int r) {

int x = arr[r], i = l;

for (int j = l; j <= r - 1; j++) {

if (arr[j] <= x) {

swap(arr, i, j);

i++;

}

}

swap(arr, i, r);

return i;

}

int randomPartition(int arr[], int l, int r) {

int n = r - l + 1;

int pivot = (int) (Math.random()) \* (n - 1);

swap(arr, l + pivot, r);

return partition(arr, l, r);

}

}

public class orderstats {

public static void main(String[] args) {

KthSmallst ob = new KthSmallst();

int arr[] = { 12, 3, 5, 17, 4, 19, 26 };

int n = arr.length, k = 4;

System.out.println("K'th smallest element is " + ob.kthSmallest(arr, 0, n - 1, k));

}

}