Q3)

Understanding the concept of quick sort

#include<iostream>

using namespace std;

int partition( int arr[], int s, int e) {

int pivot = arr[s];

int cnt = 0;

for(int i = s+1; i<=e; i++) {

if(arr[i] <=pivot) {

cnt++;

}

}

//place pivot at right position

int pivotIndex = s + cnt;

swap(arr[pivotIndex], arr[s]);

//left and right wala part smbhal lete h

int i = s, j = e;

while(i < pivotIndex && j > pivotIndex) {

while(arr[i] <= pivot)

{

i++;

}

while(arr[j] > pivot) {

j--;

}

if(i < pivotIndex && j > pivotIndex) {

swap(arr[i++], arr[j--]);

}

}

return pivotIndex;

}

void quickSort(int arr[], int s, int e) {

//base case

if(s >= e)

return ;

//partitioon karenfe

int p = partition(arr, s, e);

//left part sort karo

quickSort(arr, s, p-1);

//right wala part sort karo

quickSort(arr, p+1, e);

}

int main() {

int arr[10] = {2,4,1,6,9 ,9,9,9,9,9};

int n = 10;

quickSort(arr, 0, n-1);

for(int i=0; i<n; i++)

{

cout << arr[i] << " ";

} cout << endl;

return 0;

}