**YASH PATIL-45-S3**

**EXP-3**

**AIM: To Implement Quicksort and comparative analysis for large values of 'n' using DAC technique**

#include<stdio.h>

int partition (int a[], int start, int end)

{

int pivot = a[end];

int i = (start - 1);

for (int j = start; j <= end - 1; j++)

{

if (a[j] < pivot)

{

i++;

int t = a[i];

a[i] = a[j];

a[j] = t;

}

}

int t = a[i+1];

a[i+1] = a[end];

a[end] = t;

return (i + 1);

}

void quick(int a[], int start, int end)

{

if (start < end)

{

int p = partition(a, start, end);

quick(a, start, p - 1);

quick(a, p + 1, end);

}

}

void printArr(int a[], int n)

{

int i;

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

printf("%d ", a[i]);

}

int main()

{

int a[] = { 24, 9, 29, 14, 19, 27 };

int n = sizeof(a) / sizeof(a[0]);

printf("Before sorting array elements are - \n");

printArr(a, n);

quick(a, 0, n - 1);

printf("\nAfter sorting array elements are - \n");

printArr(a, n);

return 0;

}

**OUTPUT:**

