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#include<time.h>
#include<stdlib.h>
#include<stdio.h>
#include<conio.h>
#include<process.h>

int count=0;
int partition(int[10],int,int);
int myrandom(int,int);
void main()
{
    void getdata(int[10],int);
    void putdata(int[10],int);
    void quick_sort(int[10],int,int);
    int i,a[100],n;
    clrscr();
    printf("Enter the Size of array=\n");
    scanf("%d",&n);
    getdata(a,n);
    printf("\nBefore soring=\n");
    putdata(a,n);
    quick_sort(a,0,n-1);
    printf("\nAfter sorting=\n");
    putdata(a,n);
    printf("\n For n = %d\n value of count is  %d",n,count);
    getch();
}
void getdata(int a[10],int n)
{
    int k;
    printf("Enter the %d Element for sorting\n",n);
    for(k=0;k<n;k++)
    {
        printf("[%d]= ",k);
        scanf("%d",&a[k]);
    }
}
void putdata(int a[10], int n)
{
    int k;
    for(k=0;k<n;k++)
    {
        printf("%d\t",a[k]);
    }
    printf("\n");
}
void quick_sort(int a[],int p,int r)

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{
    int q;
    count++;
    if(p<r)
    {
        count++;
        q=partition(a,p,r);
        count++;
        quick_sort(a,p,q-1);
        count++;
        quick_sort(a,q+1,r);
        count++;
    }
}

int myrandom(int lower,int upper)
{
    int num;
    count++;
    srand(time(0));
    count++;
    num=(rand() % (upper - lower + 1)) + lower;
    count++;
    return num;
}

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int partition(int a[],int p, int r)
{
    int y,x,i,j,temp;
    y=myrandom(p,r-1);
    temp=a[y];
    a[y]=a[r];
    a[r]=temp;

    x=a[r];
    i=p-1;
    count++;
    for(j=p;j<=r-1;j++)
    {
        count++;
        if(a[j]<x)
        {
            count++;
            i=i+1;
            count++;

```

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        temp=a[i];
        count++;
        a[i]=a[j];
        count++;
        a[j]=temp;
    }
    count++;
}
count++;
    temp=a[i+1];
count++;
    a[i+1]=a[r];
count++;
    a[r]=temp;
count++;

return(i+1);
}
```