***Assignment No. 7***

Program to implement Quick sort using recursion

ROLL N0.: 66

Batch: - S3

#include<stdio.h>

void quick\_sort(int [],int,int);

int partition(int [],int,int);

int main()

{

int a[30],n,i,ch;

do

{

printf("\n1)Quick Sort\n2)Quit");

printf("\nEnter your choice : ");

scanf("%d",&ch);

if(ch==1)

{

printf("\nEnter no of elements :");

scanf("%d",&n);

printf("\nEnter array elements :");

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

scanf("%d",&a[i]);

quick\_sort(a,0,n-1);

printf("\nSorted array is :");

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

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

}

}while(ch!=2);

}

void quick\_sort(int a[],int l,int u)

{

int j;

if(l<u)

{

j=partition(a,l,u);

quick\_sort(a,l,j-1);

quick\_sort(a,j+1,u);

}

}

int partition(int a[],int l,int u)

{

int v,i,j,temp;

v=a[l];

i=l;

j=u+1;

do

{

do

{

i++;

}while(a[i]<v && i<=u);

do

{

j--;

}while(a[j]>v);

if(i<j)

{

temp=a[i];

a[i]=a[j];

a[j]=temp;

}

}while(i<j);

a[l]=a[j];

a[j]=v;

return(j);

}

-------------OUTPUT------------

1)Quick Sort

2)Quit

Enter your choice : 1

Enter no of elements :5

Enter array elements :45

12

96

7

2

Sorted array is :2 7 12 45 96

1)Quick Sort

2)Quit

Enter your choice : 2