**PROGRAM 5**

**Write a program to perform SELECTION SORT on an array.**

#include<stdio.h>

#include<conio.h>

#include<stdlib.h>

int a[7];

int select\_min(int L, int R)

{

int min, minloc,i;

min=a[L];

minloc=L;

for(i=L+1;i<=R;i++)

{

if(min>a[i])

{

min=a[i];

minloc=i;

}

}

return(minloc);

}

main()

{

int i, j, temp;

int k;

int l=0, u=6;

clrscr();

printf("\nEnter 7 Elements in the Array:");

for(k=0;k<=6;k++)

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

for(i=0;i<=u-1;i++)

{

j=select\_min(i,u);

if(i!=j)

{

temp=a[i];

a[i]=a[j];

a[j]=temp;

}

printf("\n");

for(k=0;k<=6;k++)

printf("%d\t", a[k]);

getch();

}

}

**OUTPUT:**

Enter 7 Elements in the Array: 8 7 6 5 4 3 2

2 7 6 5 4 3 8

2 3 6 5 4 7 8

2 3 4 5 6 7 8

2 3 4 5 6 7 8

2 3 4 5 6 7 8

2 3 4 5 6 7 8

**ii) Using recursion**

#include<stdio.h>

#include<conio.h>

#include<stdlib.h>

void IS(int arr[], int n){

if (n <= 1)

return;

IS( arr, n-1 );

int a = arr[n-1];

int j = n-2;

while (j >= 0 && arr[j] >a){

arr[j+1] = arr[j];

j--;

}

arr[j+1] = a;

}

void main(){

clrscr();

int i,a[5], n=5;

printf("\n enter the elements for array");

for(i=0;i<5;i++)

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

printf("Unsorted Array:\t");

for (i=0; i < 5; i++)

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

IS(a, n);

printf("\nSorted Array:\t");

for (i=0; i < 5; i++)

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

getch();

}