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SYIT DSLab

Experiment 8:

Program:

```
#include <stdio.h>
#include <stdlib.h>

int smallest(int arr[], int k, int n);

void selection_sort(int arr[], int n);
void main(int argc, char *argv[])
{
    int arr[10], i, n;
    printf("\n Enter the number of elements in the array: ");
    scanf("%d", &n);
    printf("\n Enter the elements of the array: ");
    for(i=0;i<n;i++) { scanf("%d", &arr[i]); }
    selection_sort(arr, n);
    printf("\n The sorted array is: \n");
    for(i=0;i<n;i++) printf(" %d\t", arr[i]);
}

int smallest(int arr[], int k, int n)
{ int pos = k, small=arr[k], i;
  for(i=k+1;i<n;i++)
  {
    if(arr[i]< small)
    { small = arr[i]; pos = i; }
  }
  return pos;
}

void selection_sort(int arr[],int n)
{
    int k,
    pos,
    temp;
    for(k=0;k<n;k++)
    {
        pos = smallest(arr, k, n);
        temp = arr[k];
        arr[k] = arr[pos];
        arr[pos] = temp;
    }
}
```

OUTPUT:

```
student@itadmin:~$ gcc exp8.c
```

```
student@itadmin:~$ ./a.out
```

Enter the number of elements in the array: 4

Enter the elements of the array: 4

6

7

5

The sorted array is:

4 5 6 7 student@itadmin:~\$