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Roll no - 52

Code - #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 -

```
Activities Terminal Oct 9 2:02 PM itl4@itadmin: ~
itl4@itadmin:~$ gcc exp8.c
itl4@itadmin:~$ ./a.out
Enter the number of elements in the array: 5
Enter the elements of the array: 5
2
1
4
The sorted array is:
itl4@itadmin:~$
```