EXPERIMENT NO 1

PROGRAM

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


void insertionSort(int arr[], int n)
{
 int i, key, j;
 for (i = 1; i < n; i++) {
key = arr[i];
j = i - 1;

while (j >= 0 && arr[j] > key) {
 arr[j + 1] = arr[j];
 j = j - 1;
}
arr[j + 1] = key;
 }
}
// A utility function to print an array of size n
void printArray(int arr[], int n)
{
 int i;
 printf("\n Sorted array:");
 for (i = 0; i < n; i++)
printf("%d ", arr[i]);
 printf("\n");
}
/* Driver program to test insertion sort */
int main()
{
 int arr[50],i,n;

 printf("\nEnter the size of array:") ;
 scanf("%d",&n);
 printf("\nEnter array elements:");
 for(i=0;i<n;i++)
 {
 scanf("%d",&arr[i]);
 }
 insertionSort(arr, n);
 printArray(arr, n);
```

```
 return 0;
}
```

OutPut -:

```
Enter the size of array:7
Enter array elements:1
2
3
45
6
89
37
Sorted array:1 2 3 6 37 45 89
```