INSERTION SORT

Exp. No.:
AIM:

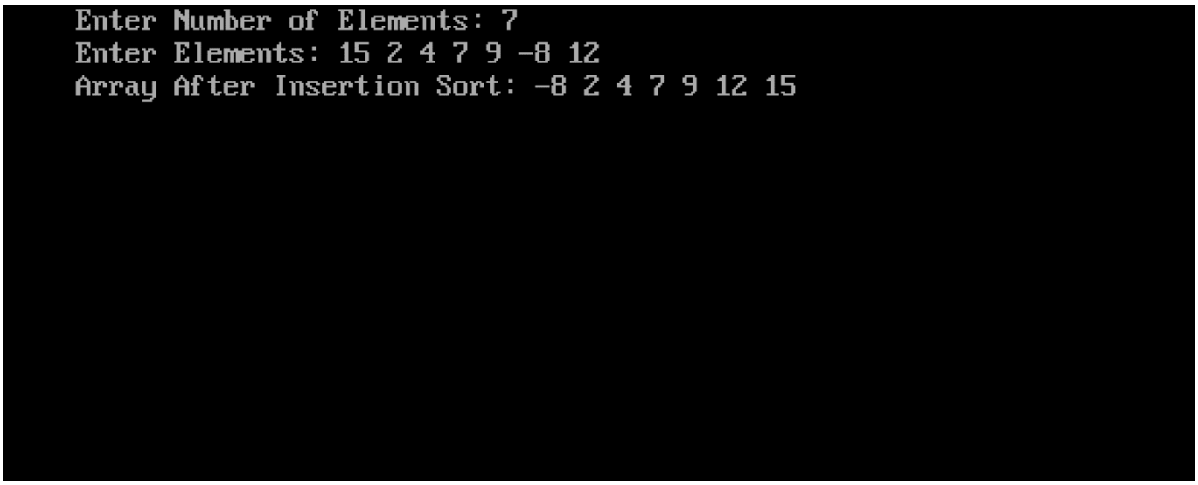
ALGORITHM:

PROGRAM:

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

int *insertionSort(int n);

int main()
{
   int n, i, *a;
   printf("Enter Number of Elements: ");
   scanf("%d", &n);
   a = (int *)malloc(n * sizeof(int));
   a = insertionSort(n);
   printf("Array After Insertion Sort:");
   for (i = 0; i < n; i++)
   {
      printf(" %d", a[i]);
   }
   getch();
   clrscr();
   return 0;
}

int *insertionSort(int n)
{
   int *a, b, i, j;
   a = (int *)malloc(n * sizeof(int));
   printf("Enter Elements: ");
   for (i = 0; i < n; i++)
   {
      scanf("%d", &b);
      if (i == 0)
      {
         a[i] = b;
      }
      else
```

```
        {
            j = i - 1;
            while (j >= 0 && a[j] > b)
            {
                a[j + 1] = a[j];
                j--;
            }
            a[j + 1] = b;
        }
    }
    return a;
}
```

OUTPUT:



RESULT: