5. Sort a given set of N integer elements using Insertion Sort technique and compute its time taken.

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

int arr[1000000];
void insetionSort(int arr[], int n)
{
   for (int i = 1; i < n; i++)
   {
      int curr = arr[i];
      int j = i - 1;
      while (j >= 0 && curr < arr[j])
      {
         arr[j + 1] = arr[j];
         j--;
      }
      arr[j + 1] = curr;
   }
}

void printArray(int arr[], int n)
{
   int i;
   for (i = 0; i < n; i++)
      printf("%d ", arr[i]);
   printf("\n");
}

int main()
{
   time_t start, end;
   int n;
   srand(time(0));
   printf("Enter the no of elements \n");
   scanf("%d", &n);

   for (int i = 0; i < n; i++)
   {
      arr[i] = rand();
   }
```

```
   start = time(NULL);
   insetionSort(arr, n);
   end = time(NULL);

   printf("The array is sorted\n");


   printf("The time taken is %.10f seconds\n", difftime(end, start) /
CLOCKS_PER_SEC);
   return 0;
}
```

Screenshot: