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

```
Code:
#include <stdio.h>
void quicksort(int number[25], int first, int last)
  int i, j, pivot, temp;
  if (first < last)
     pivot = first;
     i = first;
     i = last;
     while (i < j)
        while (number[i] <= number[pivot] && i < last)
          j++;
        while (number[j] > number[pivot])
          j--;
        if (i < j)
          temp = number[i];
          number[i] = number[j];
          number[j] = temp;
        }
     }
     temp = number[pivot];
     number[pivot] = number[j];
     number[j] = temp;
     quicksort(number, first, j - 1);
     quicksort(number, j + 1, last);
  }
}
int main()
  int i, count, number[25];
  printf("Enter elements : ");
  scanf("%d", &count);
  printf("Enter %d elements: ", count);
  for (i = 0; i < count; i++)
     scanf("%d", &number[i]);
```

```
quicksort(number, 0, count - 1);
printf("Order of Sorted elements: ");
for (i = 0; i < count; i++)
    printf(" %d", number[i]);
return 0;
}</pre>
```

Output:

Observation:

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o) sort a given set of N integers elements using Quick Sort method
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#Include (Sidio. b).
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                                                                             int 86
   int is is, pivot, temp; it (first < last)
                                                                             void
                                                                             d ins
        pivot = first;
                                                                                 fo
         12を17分;
                                                                                 4
         j= (03+)
        while (izy)
            ( tout ) the Ctoriginal => Ci)redmen ( toust )
            while (number [] > number [pivot])
                 1--1
            i + (ici)
            d temp=number[i];
              number [ number (j];
            & number (i) = temp;
        temp = number [plu of];
        number (pro+) = number (j);
        humber (j] = temp;
        qui cx sort (number, first , j-1),
        quicksort (number, j+1,65+1;
vole maines of
     int i, count, number (25);
    printf(" Enter elements: "); somf(" god" &count);
     printf ("in Enter 1.d clements: ", count);
     for (1=03 ( Leount; 1+1)

Scand ( U God " , & number (1));
    quicksort (number, 0, (aunt-1);
    privat(" Ordered elements: ");
   $00(i=0)iccount; 1++)
        Printf("god", numbers (17);
Output:
Enter elements : 4
                           20 11 15 7
Enter 4 Clements!
               Sorted elements: 7 11 15 20.
```