**Pseudo code: Quick sort time lapsed**

**1.** Declare time variables

struct timeval tv;

double start,end;

2. call clock( ) function to record the start time in terms of seconds before sorting

gettimeofday(&tv,NULL);

start = tv.tv\_sec+(tv.tv\_usec/1000000.0);

3. Generate ‘n ‘ elements randomly using rand () function

int a[100],n;

Print “enter the total number to be generated”

Read n

For i= 0 to n-1

a[i]=rand( )

4. Call Quick sort function to sort n elements

ALGORITHM **Quick sort** (A[l….r])

5. call clock( ) function to record the end time in terms of seconds after sorting

gettimeofday(&tv,NULL);

end = tv.tv\_sec+(tv.tv\_usec/1000000.0);

6. Calculate the time in terms of seconds required to sort n elements using Quick

sort i.e elapse time

elapse\_time = (end-start);

7.Write the N and Elapse time to a file

8.Use GNU plot to plot the graph

**Result:**

- Randomly generated ‘n’ numbers are sorted using Quick sort.

- Calculate the elapse time required for different ‘n’ elements

Plot a graph of N versus Elapse time(GNU Plot)

