Assignment#2

Task 1

Write a C program in which you need to sort an integer array of 10,000 using a single process. The array should be initialized using the rand() function between 1 and 30.

Task 2

Write a C program in which you need to sort an integer array of 10,000 elements using an N number of threads. N should be passed through a command line argument. The array should be initialized using the rand() function between 1 and 30. You must carefully consider which sub-part of the array to pass to each thread.

Task 3

Write a C program in which you need to sort an integer array of 10,000 elements using N processes. N should be passed through a command line argument. The array should be initialized using the rand() function between 1 and 30. You must carefully consider which sub-part of the array to pass to each child.

Fill the following table with execution times of all of the three programs and identify which program's execution time is less. (You need to use the **time** command to run programs.)

Processes/Times	Real time (Seconds)	User time (Seconds)	System time (Seconds)
Task1			
Task2			
Task3			

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Deliverables:

You are required to submit

- Task1.c
- Task2.c
- Task3.c
- Comparison.doc (This file will contain the table shown above.)

Getting Time


```
adnan@AdnanPc:~$ time ls

real    0m0.017s
user    0m0.000s
sys     0m0.031s
adnan@AdnanPc:~$
```