Parallel and Distrubuted Computer Systems

First Assignment

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Aim of the assignment:

Create three versions of parallel programs from given code, using

1. pthreads
2. cilk
3. openmp

which use the `Quicksort` algorithm, to sort an array of `N` integers in ascending order.

The programs should:

- Ask the user for `q` and `p` integers
- Use `p` threads
- Sort an array of `q` random integers, and capture the time required
- Check the correctness of the result
- Work correctly
  - for 2^p threads, where $p = [1 : 8]$
  - for 2^q integers, where $q = [12 : 24]$

```
int test(int *a, int n) {
  int pass = 1;
  for(int i = 0; i < n-1; i++){
    if(a[i] > a[i+1]){
      pass = 0;
    }
  }
  return pass;
}
```

```
int test(int *a, int n) {
  int pass = 1;
  for(int i = 0; i < n-1; i++){
    if(a[i] > a[i+1]){
      pass = 0;
    }
  }
  return pass;
}
```

Asd

code:

```
int test(int *a, int n) {
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      pass = 0;
    }
  }
  return pass;
}
```

This is the explanation