**Report for Assignment 2**

**Algorithm’s working:**

First of all, it get size from user that must power of 2. Then array will populate by using random function. It gets starting and ending points of array and by find midpoint by using these points. I used queue to store (for splitting purpose) and use these points later to display logically split array. When loop execute each time it enqueue 4 points for two arrays (left and right) and dequeue 2 points and then divide it futher if starting point is less than midpoint. Do-While loop terminate when the queue is empty.

**Running Time:**

I calculate running time by creating objects of clock\_t class at start and end of loop and then subtract these and divide by thousands to convert millisecond to seconds.

**Big Oh:**

2nlogn + (n-1)

**Memory Required:**

It requires 48 + (4\*size) Bytes.

* Here 48 is the sum of size of variables, size of queue and size of clock\_t.
* And size is given by user which always in the power of 2.