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1.

```
(base) koushik@koushik ~/Documents/code/nitr/os_lab/09112020 $ ./a.out
-----------------Mutual exclusion-----------------
Entering thread: -1416788224
Sleeping for some time to ensure context switch
Entering thread: -1425180928
Adding two
Multiplying three
If mutual exclusion was maintained then value of var must be 6 else 0
Value of var: 6
We have hence shown that mutual exclusion is satisfied!

-----------------Progress-----------------
To show progress we should be able to execute the same function twice in succession
Entering thread: -1416788224
Multiplying three
Entering thread: -1425180928
Multiplying three
Value of var: 9
We have shown that progress is satisfied

---------------Bounded wait------------
Entering recursive function. Thread id: -1416788224
Executing the waiting thread in between an ongoing recursive thread function
Hence we have shown that bounded wait is satisfied
```

2.

```
(base) koushik@koushik ~/Documents/code/nitr/os_lab/09112020 $ gcc 09112020118CS0597Q2.c -lpthread
(base) koushik@koushik ~/Documents/code/nitr/os_lab/09112020 $ ./a.out
Enter the number of elements in the array: 6
Enter 6 elements of the array
3 1 2 3 4 5
Array after sorting: 1 2 3 3 4 5
```