Optional Assignment 5

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Output of Program

```
Do you wish to cheat? y/n
Position of Car1 0
Position of Car2 0

Position of Car1 10
Position of Car2 10

Position of Car1 10
Position of Car2 11

Position of Car1 16
Position of Car2 19

Position of Car1 18
Position of Car2 22

Position of Car1 22
Position of Car2 37

Position of Car1 28
Position of Car2 47

Position of Car1 33
Position of Car2 55

Position of Car1 40
Position of Car2 56

Position of Car1 45
Position of Car2 56

Position of Car1 49
Position of Car2 71

Position of Car1 49
Position of Car2 71

Position of Car1 60
Position of Car2 73

Position of Car1 60
Position of Car2 73
```

Position of Car1 66
Position of Car2 87

Position of Car1 66
Position of Car2 95

Winner is Car2
Position of Car1 66
Position of Car2 100

I have created total 5 threads which are
Car1
Car2
Report
Cheatmode
Helper (This is an extra thread that I used to implement mutex locking)

Cheatmode ensures that the car's positionis modified only once because everytime the position gets updated I am resetting the flags that are responsible for cheatmode position update.

Yes, I used locks to prevent the discrepancy in the values of global variables that defines the position of car1 and car2.

Report ensures that both car1 and car2 run for the same time because it is synchronised with them using mutex and identical sleep.