

CSL301

Amay Dixit

12340220

End Sem Lab Exam

Question 1.

Part a.

```
(~/Desktop/Academics/CSL301/end_sem_lab_exam/end_sem_lab_exam)
● (19:36:24 on main *★)→ gcc q1_a.c && ./a.out
===== 12340220 Amay Dixit Question 1a =====
-- starting part 1 (no mutex) --
initial value : 100
Thread 3 decremented. New Value: 90
Thread 1 decremented. New Value: 80
Thread 4 decremented. New Value: 70
Thread 2 decremented. New Value: 60
Thread 3 decremented. New Value: 50
final value (unsafe) : 50
```

Part b.

```
(~/Desktop/Academics/CSL301/end_sem_lab_exam/end_sem_lab_exam)
● (19:39:12 on main *★)→ gcc q1_b.c && ./a.out
===== 12340220 Amay Dixit Question 1b =====

-- starting part 2 (mutex) --
initial value : 100
Thread 1 decremented. New Value: 90
Thread 1 decremented. New Value: 80
Thread 4 decremented. New Value: 70
Thread 2 decremented. New Value: 60
Thread 3 decremented. New Value: 50
final value (safe) : 50
```

Question 2.

```
• [~/Desktop/Academics/CSL301/end_sem_lab_exam/end_sem_lab_exam)·
  (19:41:11 on main *★)→ gcc q2.c && ./a.out
  ===== 12340220 Amay Dixit Question 2 =====
  Overall Minimum Value: 13
  Overall Maximum Value: 9997
  [~/Desktop/Academics/CSL301/end_sem_lab_exam/end_sem_lab_exam)·
  (19:41:13 on main *★)→ gcc q2.c && ./a.out
  ===== 12340220 Amay Dixit Question 2 =====
  Overall Minimum Value: 17
  Overall Maximum Value: 9984
  [~/Desktop/Academics/CSL301/end_sem_lab_exam/end_sem_lab_exam)·
  (19:41:14 on main *★)→ gcc q2.c && ./a.out
  ===== 12340220 Amay Dixit Question 2 =====
  Overall Minimum Value: 22
  Overall Maximum Value: 9968
```

Question 3.

```
(~/Desktop/Academics/CSL301/end_sem_lab_exam/end_sem_lab_exam)
● (19:42:09 on main *★)→ gcc q3.c && ./a.out
===== 12340220 Amay Dixit Question 3 =====
Reader 3 is reading... Active Readers = 1 | Data Value = 0
Writer 1 is writing... New Data Value = 1
Reader 2 is reading... Active Readers = 1 | Data Value = 1
Writer 3 is writing... New Data Value = 2
Reader 1 is reading... Active Readers = 1 | Data Value = 2
Reader 4 is reading... Active Readers = 1 | Data Value = 2
Writer 2 is writing... New Data Value = 3
Writer 1 is writing... New Data Value = 4
Reader 5 is reading... Active Readers = 1 | Data Value = 4
Writer 3 is writing... New Data Value = 5
Reader 1 is reading... Active Readers = 1 | Data Value = 5
Reader 2 is reading... Active Readers = 1 | Data Value = 5
Writer 2 is writing... New Data Value = 6
Reader 4 is reading... Active Readers = 1 | Data Value = 6
Reader 3 is reading... Active Readers = 1 | Data Value = 6
Reader 1 is reading... Active Readers = 1 | Data Value = 6
Writer 1 is writing... New Data Value = 7
Reader 4 is reading... Active Readers = 1 | Data Value = 7
Reader 5 is reading... Active Readers = 1 | Data Value = 7
Reader 1 is reading... Active Readers = 1 | Data Value = 7
Reader 2 is reading... Active Readers = 1 | Data Value = 7
Reader 3 is reading... Active Readers = 1 | Data Value = 7
Writer 2 is writing... New Data Value = 8
Writer 3 is writing... New Data Value = 9
Reader 4 is reading... Active Readers = 1 | Data Value = 9
Reader 3 is reading... Active Readers = 1 | Data Value = 9
Reader 5 is reading... Active Readers = 1 | Data Value = 9
Reader 2 is reading... Active Readers = 1 | Data Value = 9
Reader 5 is reading... Active Readers = 1 | Data Value = 9
Final Data Value = 9
Final Log Count = 29
```

Question 4.

```
(~/Desktop/Academics/CSL301/end_sem_lab_exam/end_sem_lab_exam)
● (19:44:56 on main * ★)→ ./a.out . 1
.
    q1_b.c [FILE] (size: 1341 bytes)
    q2.c [FILE] (size: 2198 bytes)
    q1_a.c [FILE] (size: 1164 bytes)
    q3.c [FILE] (size: 3883 bytes)
    q4.c [FILE] (size: 2766 bytes)
    a.out [FILE] (size: 15992 bytes)
```

```
(~/Desktop/Academics/CSL301/end_sem_lab_exam/end_sem_lab_exam)
● (19:56:32 on main * ★)→ ./a.out ~/Documents 2
/home/amaydixit11/Documents
    backup [DIR] (size: 4096 bytes)
        enhanced_shop_map_after_sprint_2.html [FILE] (size: 1109693 bytes)
    backup [DIR] (size: 4096 bytes)
    .git [DIR] (size: 4096 bytes)
    .obsidian [DIR] (size: 4096 bytes)
.git [DIR] (size: 4096 bytes)
    config [FILE] (size: 92 bytes)
    HEAD [FILE] (size: 23 bytes)
    objects [DIR] (size: 4096 bytes)
    refs [DIR] (size: 4096 bytes)
    hooks [DIR] (size: 4096 bytes)
    info [DIR] (size: 4096 bytes)
    description [FILE] (size: 73 bytes)
Obsidian-github-repository [DIR] (size: 4096 bytes)
    enhanced_shop_map_after_sprint_2.html [FILE] (size: 1109693 bytes)
    Untitled.canvas [FILE] (size: 2 bytes)
    backup [DIR] (size: 4096 bytes)
    .git [DIR] (size: 4096 bytes)
    .obsidian [DIR] (size: 4096 bytes)
```

```
(~/Desktop/Academics/CSL301/end_sem_lab_exam/end_sem_lab_exam)
● (20:21:33 on main * ★)→ ./a.out ./thisDirectoryDoesNotExist 1
./thisDirectoryDoesNotExist
    ./thisDirectoryDoesNotExist [ACCESS DENIED]
```