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CS143 HW #5

1.

A) Yes, it is serial, because the next transaction starts only after the previous transaction ends.

B) Yes, it is conflict serializable, because it is serial.

[A schedule is conflict serializable if it is serial, or if it is equivalent

in result to a serial schedule.]

Equivalent serial schedules:

|  |  |  |  |
| --- | --- | --- | --- |
| T1 | T2 | T3 | T4 |
|  |  | Write(A) |  |
| Read(A) |  |  |  |
| Write(B) |  |  |  |
|  |  |  | Read(B) |
|  | Read(B) |  |  |
|  | Write(C) |  |  |

2.

A)

Sequence: T1, T2, T3 & T1, T3, T2

|  |  |
| --- | --- |
| name | daysoff |
| Larry Page | 15 |
| James Damore | 15 |

Sum = 15 + 15 = 30

Sequence: T2, T1, T3

|  |  |
| --- | --- |
| name | daysoff |
| Larry Page | 26 |
| James Damore | 16 |

Sum = 26 + 16 = 42

Sequence: T3, T1, T2

|  |  |
| --- | --- |
| name | daysoff |
| Larry Page | 25 |
| James Damore | 0 |

Sum = 25 + 0 = 25

Sequence: T2, T3, T1

|  |  |
| --- | --- |
| name | daysoff |
| Larry Page | 36 |
| James Damore | 0 |

Sum = 36 + 0 = 36

Sequence: T3, T2, T1

|  |  |
| --- | --- |
| name | daysoff |
| Larry Page | 36 |
| James Damore | 1 |

Sum = 36 + 1 = 37

Therefore, there are 5 possible returns. They are 25, 30, 36, 37, 42

B)

T1, …

Sum = 15 + 15 = 30

T2-1, T1, …

Sum = 16 + 16 = 32

T2, T1, T3

Sum = 26 + 16 = 42

T2, T3-1, T1, T3-2

Sum = 36 + 16 = 52

T2, T3, T1

Sum = 36 + 0 = 36

T3-1, T1, …

Sum =25 + 15 = 40

T3, T1, T2

Sum = 25 + 0 = 25

T3, T2-1, T1, T2-2

Sum = 26 + 1 = 27

T3, T2, T1

Sum = 36 + 1 = 37

Therefore, there are 9 possible returns. They are 25, 27, 30, 32, 36, 37, 40, 42, 52