# Part 1

Saturday, February 11, 2023 4:28 PM

## Assignment Details

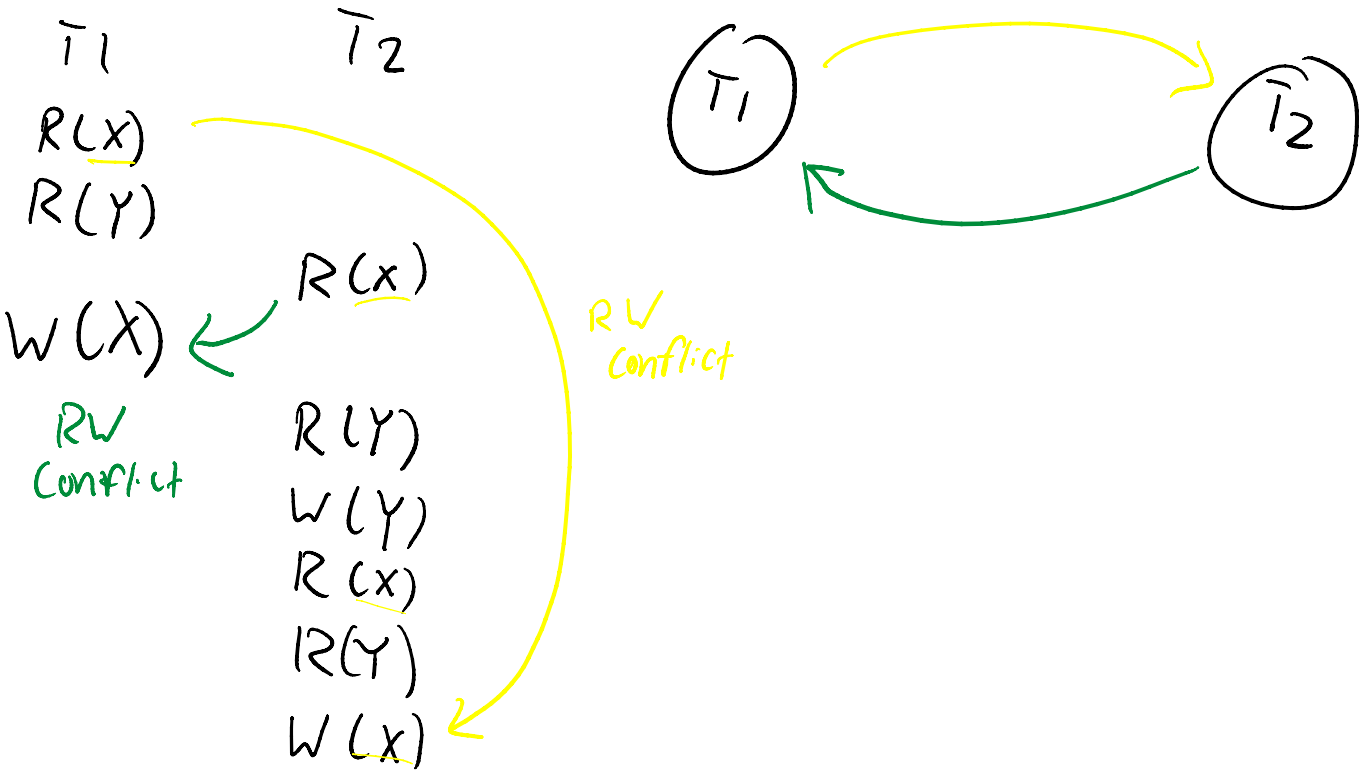
### **Part 1:** Schedules and Anomalies (10 points)

Consider a database with objects X, Y, and Z and assume that there are two transactions T1 and T2 that attempt the following operations.

T1: R(X), R(Y), W(X)

T2: R(X), R(Y), W(Y), R(X), R(Y), W(X), R(Z), W(Z)

**A)** Write an example schedule that interleaves operations between T1 and T2, that is NOT conflict serializable.




Answer: R1(X), R1(Y), R2(X), W1(X), R2(Y), W2(Y), R2(X), R2(Y), W2(X), R2(Z), W2(Z)

**B)** If T1 is instead just "R(X)", this corresponds to T1 just being a single query like

```
SELECT * FROM Flights WHERE id=1024;
```

Should the database treat a single SQL statement like this as a transaction? Why or why not?

Yes, a transaction will guarantee that the data does not run into concurrency problems.