**What types of constraints would you expect to check?**

I think Seat\_number would have to check against LEG\_INSTANCE for Number\_of\_available\_seats, Flight\_number, Leg\_number, and Date.

It also wouldn’t hurt to keep the seat numbers unique, if possible since it’s already a primary key.

**Which of these constraints are key, entity integrity, and referential integrity constraints and which are not?**

Key – The candidate keys are Flight\_number, Leg\_number, Date, and Seat\_number. I’d pick Leg\_number as the primary key.

Entity Integrity (no null primary keys) – would have to apply to all of them. If any of the values were NULL, then there would be an issue with booking and the person could be placed on the wrong flight.

Referential Integrity (consistency among referenced tuples) – would have to check for the consistency of Flight\_number, Leg\_number, and Date in LEG\_INSTANCE to be sure that the information doesn’t get crossed with a different flight.

**Specify all the referential integrity constraints on the figure.**

Airport\_code is a Foreign Key (FK) of AIRPORT in CAN\_LAND.

Flight\_number is an FK of FLIGHT in FLIGHT\_LEG, LEG\_INSTANCE, FARE, and SEAT\_RESERVATION.

Leg\_number is FK of FLIGHT\_LEG in LEG\_INSTANCE and SEAT\_RESERVATION.

Date is an FK of LEG\_INSTANCE in SEAT\_RESERVATIONS.

Airplane\_type\_name is an FK of AIRPLANE\_TYPE in CAN\_LAND.

Airplane\_id is an FK of LEG\_INSTANCE for AIRPLANE.