## Lab 1, Task 2: Understand keys and constraints

Given the relations shown in Task 2 of Lab 1, answer each of the following questions:

1. Select a possible primary key for each of these relations.

The primary key for Passenger: id

The primary key for Flight: number

The primary key for BookedOn: (person, flight)

2. Is the combination *(number, origin)* a key for the *Flights* relation?

Yes, because the combination can be used to uniquely identify a given row as the number is a primary key.

3. Is the combination *(number, origin)* a candidate key for the *Flights* relation?

No, because the attribute origin is unnecessary. We can remove it and the number alone is still a key.

4. Two of the attributes in these relations appear to be *foreign keys*. Which ones?

Person and flight

5. Give a concrete example of a row that would violate a uniqueness constraint if you attempted to insert it in one of the above tables.

Adding (001, Tom Smith, “Boston, MA”) to the Passenger table would violate a uniqueness constraint because there is already a passenger id 001 which should be unique.

6. Give a concrete example of a row that would violate a referential integrity constraint if you attempted to insert one of the above tables.

Adding (007, DL5882) to the table BookedOn would violate a referential integrity constraint because there is no id 007 in the Passenger table.