

# Homework1

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## part 1: Keys, Keys, Keys

### 1. Find all superkeys of Station.

- (A)
- (N)
- (A, N)
- (A, L)
- (N, L)
- (A, L, N)

### 1. Which superkey(s) of Station is/are candidate keys? Explain why.

- (A)
- (N)

A candidate key is a minimal super key with no redundant attributes.

### 2. Which candidate key would you choose to be the primary key of Station and why?

(A) Because each station has a different name and the abbreviation A contains the same amount of information as N while being shorter.

### 3. Which attribute(s) would you choose to be the candidate key for RideCount?

- (O, De, Da, H)

If there are multiple, which would you choose to be the *primary key* of RideCount? While you are free to use the algorithm described in lecture to first find all Superkeys, try to instead infer the PK by the context rather than constructing all Superkeys.

- `(O, De, Da, H)` I would choose this one because from this “route” plus the `Date` and `Hour` we can find the throughput. This tuple will uniquely identify each `RideCount` .

#### 4. Are there any foreign keys in RideCount or Station? What are they?

In Station there are **no foreign keys** to make the primary key of RideCount, `(O, De, Da, H)` .

In RideCount the foreign keys to Station are

- `Origin`
- `Destination`

## part 2: Schema Diagram

