**Airplane (distinct):**

**AirplaneID** = 5000 = number of records, primary key

Selectivity = distinct/ total no of records

**Total number of seats available** = 1208, *secondary*

Selectivity = distinct/ total no of records

**TypeName** = 15, foreign key *clustering*

Selectivity = distinct/ total no of records

**Number of blocks** = 65spanned 75unspanned saves time even though it takes more space

Page size / average record size

Number of records each block can have=Assuming page size is 16KB (16384)/212bytes=77

333/77=4.3 number of blocks per type

5\*15 = 75 total number of block needed in total for unspanned system

**B-tree level: 3**

**Leafblocks; 4489**

Assumptions:

-we have 333 of all types of airplanes except one type we have 338 airplanes of the same type

-Assuming some airplanes have the same amount of bookings

-assuming we have equal number of airplane types 5000/12=416 which means 416 of the airplanes have the same amount of maximum seats

Assuming 50% of them are fully booked that gives us 208

as for the rest of the airplanes some of them have the same number of seats booked for example boeing max seats is 350 and airbus max seats is 450 but the available seats for both is 50 then that’s is also repetition considering that we can say a 1000+ 208=1208 available seats are distinct

**Airplane\_type (distinct):**

**TypeName** = 15 = number of records, primary key

Selectivity =

**Company** = 4 *clustering*

Selectivity =

**Max number of seats** = 12 *secondary*

Selectivity =

**Number of blocks** = 1 spanned

**B-tree level: 3**

**Leafblocks; 1**