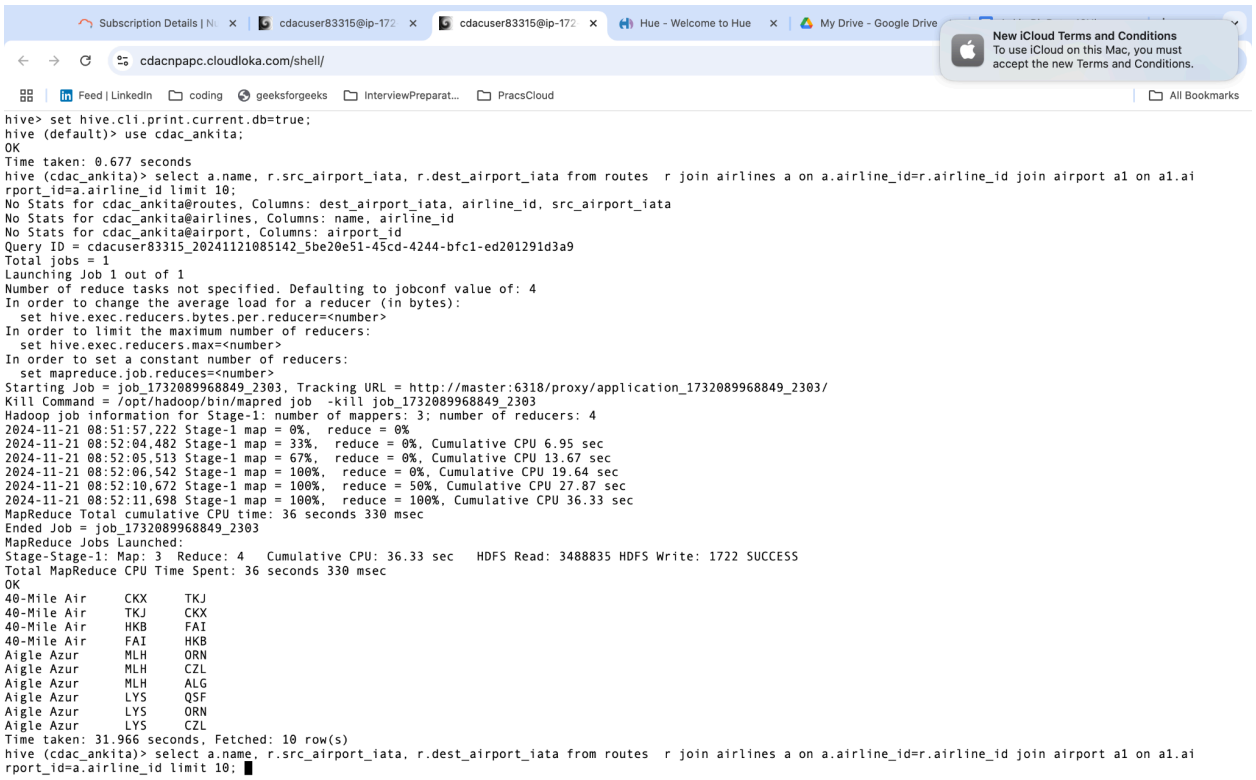
Hive
Ques1.
1.ans

```
select a.name, r.src_airport_iata, r.dest_airport_iata from routes  r join airlines a on a.airline_id=r.airline_id join airport a1 on a1.airport_id=a.airline_id limit 10;
```



2.

3.

```
select max(airline_iata), count(*) as no_routes from routes;
```

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```
hive (cdac_ankita)> select distinct(a.name) from routes r join airline a on a.airline_id=r.airline_id where trim(upper(r.equi
FAILED: SemanticException [Error 10001]: Line 1:43 Table not found 'airline'
hive (cdac_ankita)> select distinct(a.name),max(equipment) from routes r join airline a on a.alirline_id=r.airline_id;
FAILED: SemanticException [Error 10001]: Line 1:58 Table not found 'airline'
hive (cdac_ankita)> select distinct(a.name),max(equipment) from routes r join airlines a on a.alirline_id=r.airline_id;
FAILED: SemanticException [Error 10002]: Line 1:74 Invalid column reference 'alirline_id'
hive (cdac_ankita)> select distinct(a.name),max(equipment) from routes r join airlines a on a.airline_id=r.airline_id;
FAILED: SemanticException [Error 10128]: Line 1:24 Not yet supported place for UDAF 'max'
hive (cdac_ankita)> select distinct(a.name),max(equipment) from routes r join airlines a on a.airline_id=r.airline_id group by airline_iata;
FAILED: SemanticException 1:107 SELECT DISTINCT and GROUP BY can not be in the same query. Error encountered near token 'airline_iata'
hive (cdac_ankita)> select distinct(a.name),max(equipment) from routes r join airlines a on a.airline_id=r.airline_id group by name;
FAILED: SemanticException 1:107 SELECT DISTINCT and GROUP BY can not be in the same query. Error encountered near token 'name'
hive (cdac_ankita)> select distinct(a.name),max(equipment) from routes r join airlines a on a.airline_id=r.airline_id group by airline_id;
FAILED: SemanticException 1:107 SELECT DISTINCT and GROUP BY can not be in the same query. Error encountered near token 'airline_id'
hive (cdac_ankita)> select distinct(a.name),max(equipment) from routes r join airlines a on a.airline_id=r.airline_id;
FAILED: SemanticException [Error 10128]: Line 1:24 Not yet supported place for UDAF 'max'
hive (cdac_ankita)> select a.name,max(equipment) from routes r join airlines a on a.airline_id=r.airline_id group by airline_id;
FAILED: SemanticException Column airline_id Found in more than One Tables/Subqueries
FAILED: SemanticException 1:107 SELECT DISTINCT and GROUP BY can not be in the same query. Error encountered near token 'airline_iata'_iata;
hive (cdac_ankita)> select distinct(a.name),max(equipment) from routes r join airlines a on a.airline_id=r.airline_id ;
FAILED: SemanticException [Error 10128]: Line 1:24 Not yet supported place for UDAF 'max'
hive (cdac_ankita)> select max(airline_iata), count(*) as no_routes from routes;
Query ID = cdacuser83315_20241121101922_5fa23171-7d89-40fa-a4fb-1b5608415bfd
Total jobs = 1
Launching Job 1 out of 1
Number of reduce tasks determined at compile time: 1
In order to change the average load for a reducer (in bytes):
  set hive.exec.reducers.bytes.per.reducer=<number>
In order to limit the maximum number of reducers:
  set hive.exec.reducers.max=<number>
In order to set a constant number of reducers:
  set mapreduce.job.reduces=<number>
Starting Job = job_1732089968849_2661, Tracking URL = http://master:6318/proxy/application_1732089968849_2661/
Kill Command = /opt/hadoop/bin/mapred job  -kill job_1732089968849_2661
Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 1
2024-11-21 10:19:32,970 Stage-1 map = 0%,  reduce = 0%
2024-11-21 10:19:41,168 Stage-1 map = 100%,  reduce = 0%, Cumulative CPU 3.31 sec
2024-11-21 10:19:49,370 Stage-1 map = 100%,  reduce = 100%, Cumulative CPU 6.69 sec
MapReduce Total cumulative CPU time: 6 seconds 690 msec
Ended Job = job_1732089968849_2661
MapReduce Jobs Launched:
Stage-Stage-1: Map: 1  Reduce: 1   Cumulative CPU: 6.69 sec   HDFS Read: 2390588 HDFS Write: 108 SUCCESS
Total MapReduce CPU Time Spent: 6 seconds 690 msec
OK
ZM      67663
Time taken: 29.453 seconds, Fetched: 1 row(s)
hive (cdac_ankita)>
```

Spark:

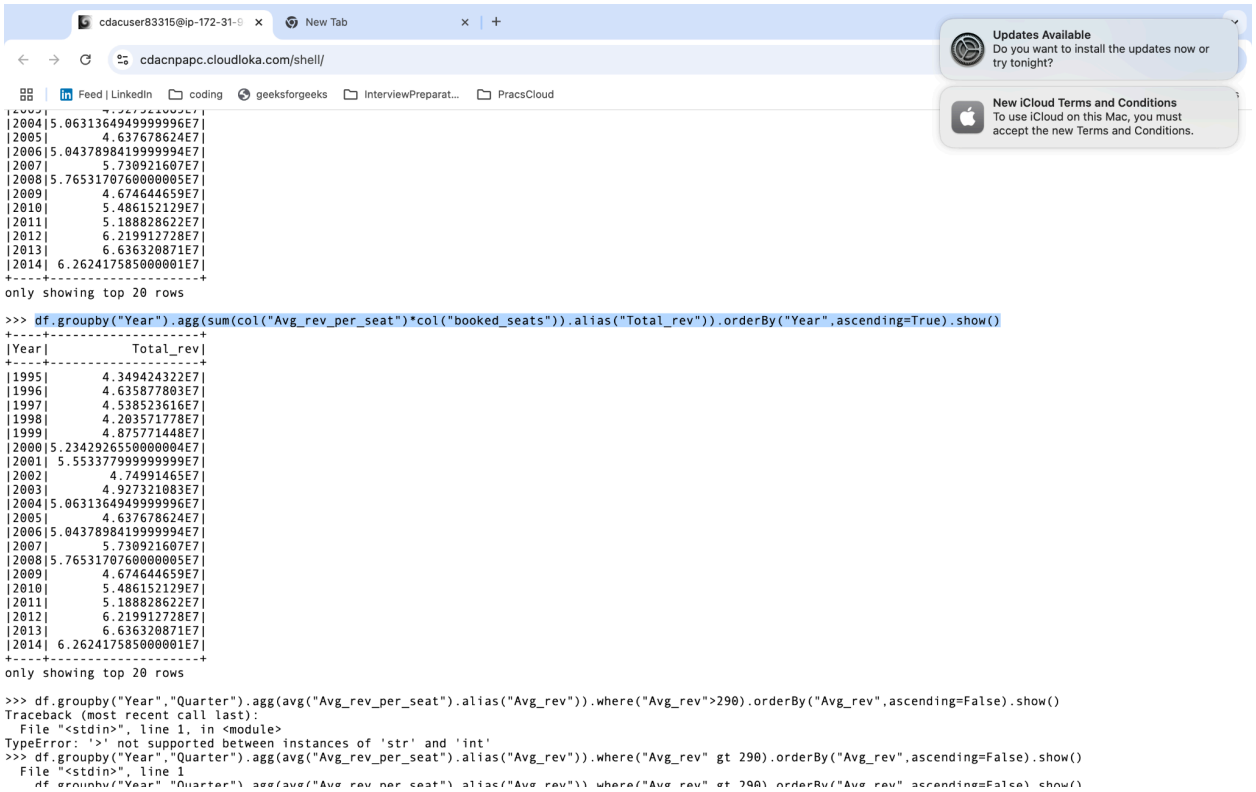
<u>Ques1</u>

1.Ans
df.groupby(“Year”,”booked_seat”).where(“booked_seats”>40000).show()

2. Ans

Using df show distinct years data

```
df.groupby("Year").agg(sum(col("Avg_rev_per_seat")*col("booked_seats"
)).alias("Total_rev")).orderBy("Year",ascending=True).show()
```

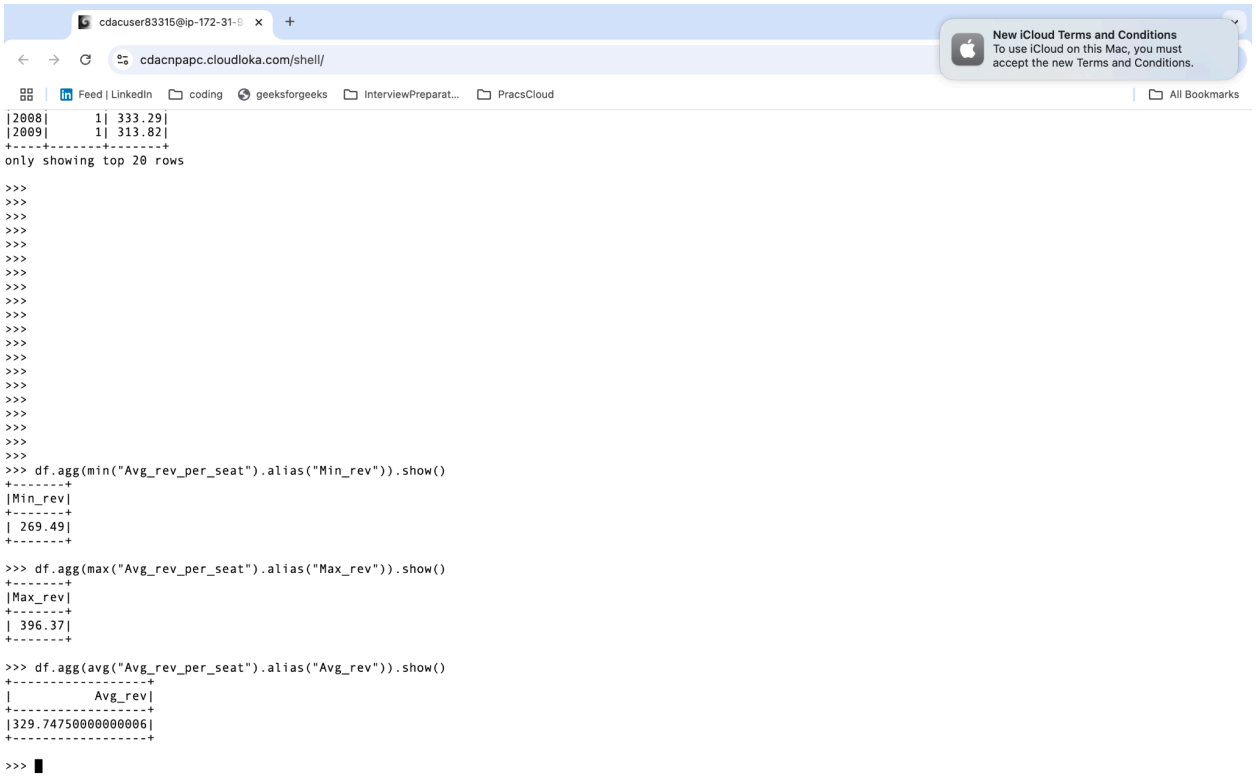


Ques2:

1 ans

```
df.agg(min("Avg_rev_per_seat").alias("Min_rev")).show()
df.agg(max("Avg_rev_per_seat").alias("Max_rev")).show()
```

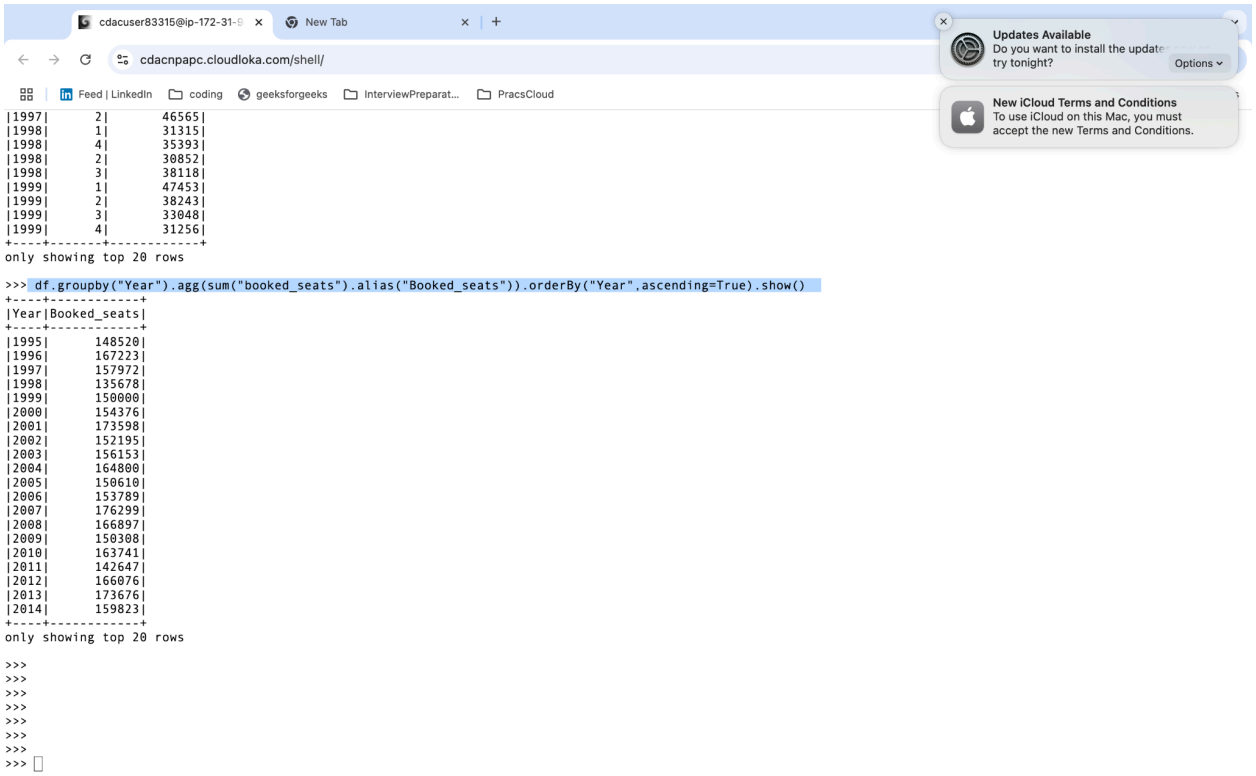
```
df.agg(avg("Avg_rev_per_seat").alias("Avg_rev")).show()
```



2.

3.

```
df.groupby("Year").agg(sum("booked_seats").alias("Booked_seats")).orderBy("Year",ascending=True).show()
```



4.

```
df.groupby("Year").agg(sum("booked_seats").alias("Booked_seats")).orderBy("Year",ascending=True).show()
```

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```
only showing top 20 rows

>>> df.groupby("Year").orderBy("Year",ascending=True).show()
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
AttributeError: 'GroupedData' object has no attribute 'orderBy'
>>> df.groupby("Year").orderby("Year",ascending=True).show()
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
AttributeError: 'GroupedData' object has no attribute 'orderby'
>>> df.groupby("Year").agg(sum("booked_seats").alias("Booked_seats"))orderBy("Year",ascending=True).show()
  File "<stdin>", line 1
    df.groupby("Year").agg(sum("booked_seats").alias("Booked_seats"))orderBy("Year",ascending=True).show()
                                                                     ^
SyntaxError: invalid syntax
>>> df.groupby("Year").agg(sum("booked_seats").alias("Booked_seats")).orderBy("Year",ascending=True).show()
+----+------------+
|Year|Booked_seats|
+----+------------+
|1995|      148520|
|1996|      167223|
|1997|      157972|
|1998|      135678|
|1999|      150000|
|2000|      154376|
|2001|      173598|
|2002|      152195|
|2003|      156153|
|2004|      164800|
|2005|      150610|
|2006|      153789|
|2007|      176299|
|2008|      166897|
|2009|      150308|
|2010|      163741|
|2011|      142647|
|2012|      166076|
|2013|      173676|
|2014|      159823|
+----+------------+
only showing top 20 rows

>>> df.groupby("Year").show()
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
AttributeError: 'GroupedData' object has no attribute 'show'
>>> 
```

5.

```
df.groupby("Year").agg(sum(col("Avg_rev_per_seat")*col("booked_seats"
)).alias("Total_rev")).orderBy("Year",ascending=True).show()
```

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```
|2000|5.2342926550000004E7|
|2001| 5.553377999999999E7|
|2002|        4.74991465E7|
|2003|       4.927321083E7|
|2004|5.0631364949999996E7|
|2005|       4.637678624E7|
|2006|5.0437898419999994E7|
|2007|       5.730921607E7|
|2008|5.7653170760000005E7|
|2009|       4.674644659E7|
|2010|       5.486152129E7|
|2011|       5.188828622E7|
|2012|       6.219912728E7|
|2013|       6.636320871E7|
|2014| 6.262417585000001E7|
+----+--------------------+
only showing top 20 rows

>>> df.groupby("Year").agg(sum(col("Avg_rev_per_seat")*col("booked_seats")).alias("Total_rev")).orderBy("Year",ascending=True).show()
+----+--------------------+
|Year|           Total_rev|
+----+--------------------+
|1995|       4.349424322E7|
|1996|       4.635877803E7|
|1997|       4.538523616E7|
|1998|       4.203571778E7|
|1999|       4.875771448E7|
|2000|5.2342926550000004E7|
|2001| 5.553377999999999E7|
|2002|        4.74991465E7|
|2003|       4.927321083E7|
|2004|5.0631364949999996E7|
|2005|       4.637678624E7|
|2006|5.0437898419999994E7|
|2007|       5.730921607E7|
|2008|5.7653170760000005E7|
|2009|       4.674644659E7|
|2010|       5.486152129E7|
|2011|       5.188828622E7|
|2012|       6.219912728E7|
|2013|       6.636320871E7|
|2014| 6.262417585000001E7|
+----+--------------------+
only showing top 20 rows

>>> 
```