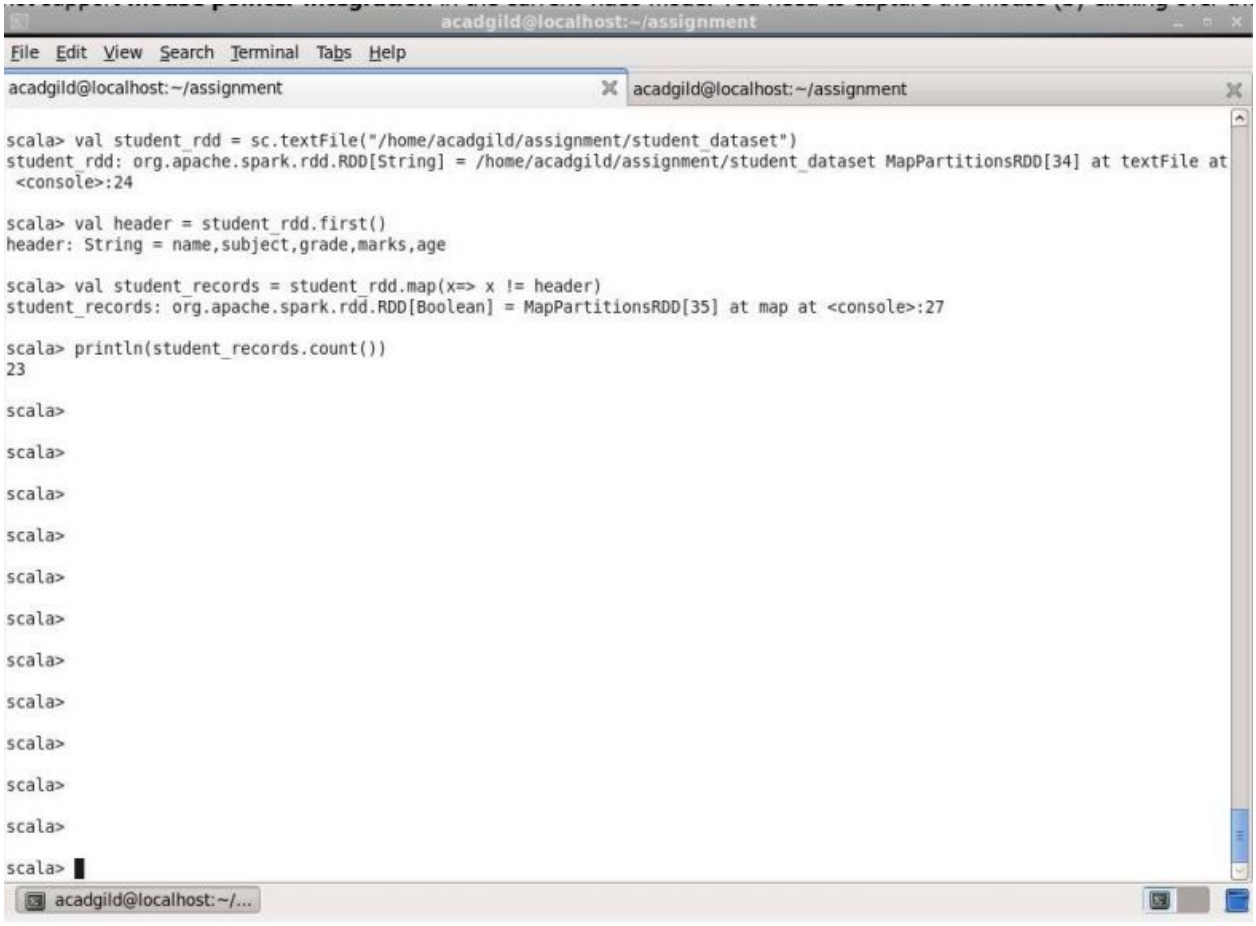
Assignment_46

Problem Statement
Task 1
Given a dataset of college students as a text file (name, subject, grade, marks) :
Dataset
Problem Statement 1:
1. Read the text file, and create a tupled rdd.
2. Find the count of total number of rows present.

```
val student_rdd = sc.readFile("/home/acadgild/assignment/student_dataset")
val header = student_rdd.first()
 val student_records = student_rdd.map(records => records != header)
println(student_rdd.count())
```



`

3. What is the distinct number of subjects present in the entire school

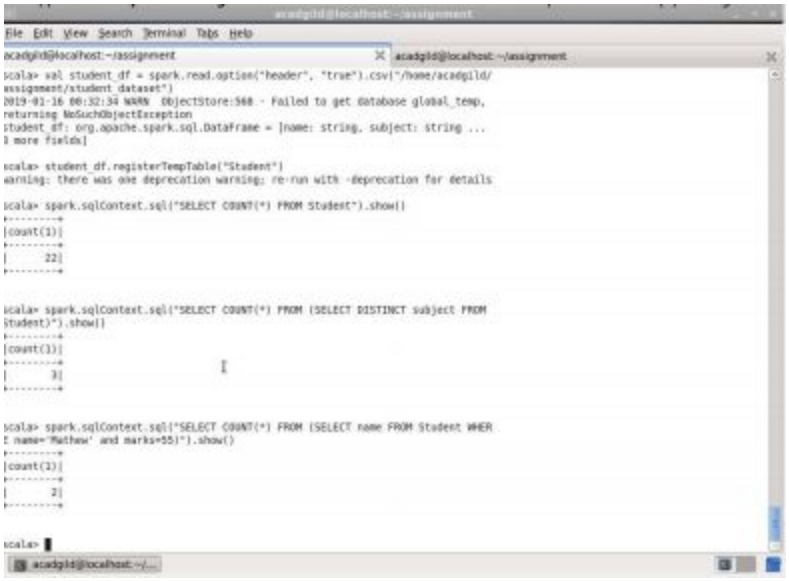
Steps: Create a dataframe from the CSV file Register a temporary table Student
Create SQL Query which will return count of distinct subjects
spark.sqlContext.sql("SELECT COUNT(*) FROM (SELECT DISTINCT subject FROM Student").show()

4. What is the count of the number of students in the school, whose name is Mathew and marks is 55

- Create SQL with query criteria of name is Mathew and marks is 55 and get the count

spark.sqlContext.sql("SELECT COUNT(*) FROM (SELECT name FROM Student WHERE name='Mathew' and marks=55)").show()

Screenshots for the above code



Task 2

1) What is the distribution of the total number of air-travelers per year

2) What is the total air distance covered by each user per year

3) Which user has travelled the largest distance till date

4) What is the most preferred destination for all users.

```
import org.apache.spark.sql.functions._
val df = spark.read.option("header","true").csv("/FileStore/tables/S18_Dataset.txt")
println(s"The distribution of total number of air-travelers per year:-")
df.groupBy("year_of_travel").agg(count("user_id") as "no.of traveller").show()
```

```
 The distribution of total number of air-travelers per year:-
 +--------------+---------------+
 |year_of_travel|no.of traveller|
 +--------------+---------------+
 |          1992|              7|
 |          1994|              1|
 |          1993|              7|
 |          1990|              8|
 |          1991|              9|
 +--------------+---------------+
```

2) What is the total air distance covered by each user per year

```
 import org.apache.spark.sql.functions._
 df: org.apache.spark.sql.DataFrame = [user_id: string, src: string ... 4 more fields]
println(s"The total air distance covered by each user per year:-")
df.groupBy("user_id","year_of_travel").agg(sum("distance") as "total distance").show(
```

```
 The total air distance covered by each user per year:-
 +-------+--------------+--------------+
 |user_id|year_of_travel|total distance|
 +-------+--------------+--------------+
 |      1|          1990|         200.0|
 |     10|          1992|         200.0|
```

```
|      7|          1990|         600.0|
|      6|          1993|         200.0|
|     10|          1990|         200.0|
|      8|          1990|         200.0|
|      8|          1991|         200.0|
|      3|          1991|         200.0|
|      1|          1993|         600.0|
|      9|          1992|         400.0|
|      2|          1991|         400.0|
|      3|          1993|         200.0|
|      4|          1990|         400.0|
|      2|          1993|         200.0|
|      4|          1991|         200.0|
|     10|          1993|         200.0|
|      9|          1991|         200.0|
|      8|          1992|         200.0|
|      3|          1992|         200.0|
|      5|          1992|         400.0|
+-------+--------------+--------------+
only showing top 20 rows
```

3) Which user has travelled the largest distance till date

```
println(s"The below user has travelled the largest distance till date :-")
df.groupBy("user_id").agg(sum("distance") as "total distance").show()
```

```
The below user has travelled the largest distance till date :-
+-------+--------------+
|user_id|total distance|
+-------+--------------+
|      7|         600.0|
```

```
|      3|         600.0|
|      8|         600.0|
|      5|         800.0|
|      6|         600.0|
|      9|         600.0|
|      1|         800.0|
|     10|          600.0|
|      4|         600.0|
|      2|         600.0|
+-------+--------------+
```

4) What is the most preferred destination for all users.

```
println(s"The most preferred destination for all users :-")
df.groupBy("dest").agg(count("dest") as "prefered destination").show()
```

```
The most preferred destination for all users :-
+----+--------------------+
|dest|prefered destination|
+----+--------------------+
| AUS|                   5|
| PAK|                   5|
| RUS|                   6|
| IND|                  9|
| CHN|                   7|
+----+--------------------+
```