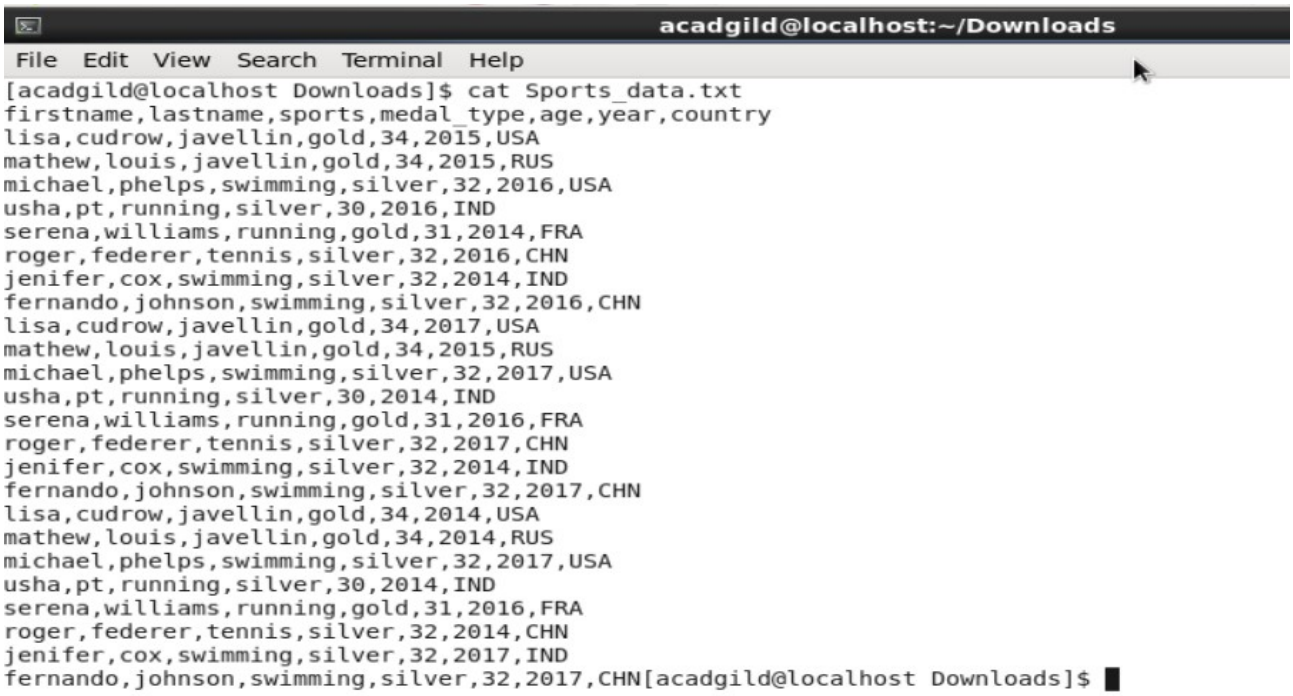
BigData Assignment 7.5

Using spark-sql, Find:
1. What are the total number of gold medal winners every year
2. How many silver medals have been won by USA in each sport

The content of the dataset



Solution -

//Read the dataset.
var sports_data = sc.textFile("/home/acadgild/Downloads/Sports_data.txt")

//Stored the header
val header = sports_data.first()

//Filtered the data without header
val actual_data = sports_data.filter(row => row != header)

//Created the dataframe where the rows are splitted and converted to its appropiate type and namme is assigned to the columns.
val sportsDF = actual_data.map(x => x.split(",")).map(x =>

x(0),x(1),x(2),x(3),x(4).toInt,x(5).toInt,x(6))).toDF("firstname","lastname","sports","medal_type","age","year","country")

//Created a table of the dataframe
sportsDF.createOrReplaceTempView("SportsData")

```
acadgild@localhost:~/RITESH/7.1
File  Edit  View  Search  Terminal  Help

scala> val sports_data = sc.textFile("file:///home/acadgild/Downloads/Sports_data.txt")
sports_data: org.apache.spark.rdd.RDD[String] = file:///home/acadgild/Downloads/Sports_data.txt MapPartitionsRDD[45] at textF
ile at <console>:24

scala> val header = sports_data.first()
header: String = firstname,lastname,sports,medal_type,age,year,country

scala> val actual_data = sports_data.filter(row=> row!=header)
actual_data: org.apache.spark.rdd.RDD[String] = MapPartitionsRDD[46] at filter at <console>:28

scala> val sportsDF = actual_data.map(x=>x.split(",")).map(x=>(x(0),x(1),x(2),x(3),x(4).toInt,x(5).toInt,x(6))).toDF("firstna
me","lastname","sports","medal_type","age","year","country")
sportsDF: org.apache.spark.sql.DataFrame = [firstname: string, lastname: string ... 5 more fields]

scala> sportsDF.createOrReplaceTempView("SportsData")

scala>
```

1. Selected the rows medal type = gold , then grouped the data to find its count.

val goldPerYear = spark.sql("select year, medal_type, count(medal_type) from SportsData where medal_type = 'gold' group by year,medal_type")

goldPerYear.show

Output-

```
scala> val goldPerYear = spark.sql("select year , medal_type , count(medal_type) from SportsData where medal_type = 'gold' gr
oup by year , medal_type")
goldPerYear: org.apache.spark.sql.DataFrame = [year: int, medal_type: string ... 1 more field]

scala> goldPerYear.show
+----+----------+-----------------+
|year|medal_type|count(medal_type)|
+----+----------+-----------------+
|2014|      gold|                3|
|2015|      gold|                3|
|2016|      gold|                2|
|2017|      gold|                1|
+----+----------+-----------------+
```

2. Selected the rows where country = USA and medal type = silver , then grouped the data according to sports to find its count sport wise

val SilverUsaSport = spark.sql("select country, sports, medaltype, count(medaltype) from SportsData where country = 'USA' and medal_type = 'silver' group by country,sports,medal_type")

silverUsaSport.show

Output-

```
scala> val silverUsaSport = spark.sql("select country, sports, medal_type , count(medal_type) from SportsData where country
 'USA' and medal_type = 'silver' group by country,sports,medal_type")
silverUsaSport: org.apache.spark.sql.DataFrame = [country: string, sports: string ... 2 more fields]

scala> silverUsaSport.show
+-------+--------+----------+-----------------+
|country|  sports|medal_type|count(medal_type)|
+-------+--------+----------+-----------------+
|    USA|swimming|    silver|                3|
+-------+--------+----------+-----------------+
```