```
scalac -classpath "$SPARK_HOME/jars/*" solution3.scala
```

```
jar cvf app.jar solution3*.class
```

```
$SPARK_HOME/bin/spark-submit --master local[*] --class solution3 app.jar
```

```
bigdata@bigdata-VirtualBox:~/Desktop/A3$ jar cvf app.jar solution3*.class
added manifest
adding: solution3$$anonfun$1.class(in = 1013) (out= 550)(deflated 45%)
adding: solution3$$anonfun$2.class(in = 1161) (out= 606)(deflated 47%)
adding: solution3$$anonfun$3.class(in = 1013) (out= 552)(deflated 45%)
adding: solution3$$anonfun$4.class(in = 1098) (out= 594)(deflated 45%)
adding: solution3$apat6399.class(in = 3846) (out= 1560)(deflated 59%)
adding: solution3$apat6399$.class(in = 2347) (out= 953)(deflated 59%)
adding: solution3$cite7599.class(in = 2813) (out= 1272)(deflated 54%)
adding: solution3$cite7599$.class(in = 1859) (out= 846)(deflated 54%)
adding: solution3.class(in = 2859) (out= 2146)(deflated 24%)
adding: solution3$.class(in = 5239) (out= 2302)(deflated 56%)
adding: solution3$$typecreator2$1.class(in = 2741) (out= 1038)(deflated 62%)
adding: solution3$$typecreator4$1.class(in = 2741) (out= 1038)(deflated 62%)
```

```
+-------+-----+-----+-------+-------+
| patent|gyear|gdate|appyear|country|
+-------+-----+-----+-------+-------+
|3072078| 1963| 1103|       |  "AU"|
|3074065| 1963| 1110|       |  "AU"|
|3074351| 1963| 1117|       |  "AU"|
|3074444| 1963| 1117|       |  "AU"|
```

```
|3074706| 1963| 1117|      |  "AU"|

|3075186| 1963| 1117|      |  "AU"|

|3075699| 1963| 1124|      |  "AU"|

|3076708| 1963| 1131|      |  "AU"|

|3076989| 1963| 1138|      |  "AU"|

|3078231| 1963| 1145|      |  "AU"|

|3078438| 1963| 1145|      |  "AU"|

|3079628| 1963| 1159|      |  "AU"|

|3079890| 1963| 1159|      |  "AU"|

|3080123| 1963| 1159|      |  "AU"|

|3080349| 1963| 1159|      |  "AU"|

|3080589| 1963| 1166|      |  "AU"|

|3081006| 1963| 1166|      |  "AU"|

|3081007| 1963| 1166|      |  "AU"|

|3081263| 1963| 1166|      |  "AU"|

|3082064| 1963| 1173|      |  "AU"|

+------+----+-----+------+------+
```

SLF4J: Failed to load class "org.slf4j.impl.StaticLoggerBinder".

SLF4J: Defaulting to no-operation (NOP) logger implementation

SLF4J: See http://www.slf4j.org/codes.html#StaticLoggerBinder for further detail

HBase

0: jdbc:hive2://localhost:10000> show tables;

```
+-----------+--+

| tab_name  |
```

```
+-----------+--+
| friend    |
| hello     |
| hitab     |
| lineitem  |
| mytable   |
| orders    |
| partsupp  |
| tab       |
+-----------+--+
```

8 rows selected (0.072 seconds)

0: jdbc:hive2://localhost:10000> select * from hitab;

```
+-------------+-----------------+--+
| hitab.cited | hitab.citedcount |
+-------------+-----------------+--+
| 4662877     | 81              |
| 5050166     | 72              |
| 5235595     | 71              |
| 4188030     | 70              |
| 3646346     | 67              |
| 4868832     | 64              |
| 4416713     | 63              |
| 4833092     | 60              |
| 4497662     | 59              |
| 4596657     | 59              |
| 4107288     | 58              |
```

4636951	57
3889686	55
4258716	55
3895741	52
3834646	51
4175555	51
4517977	51
3936791	48
4023559	48
+-------------+---------------+--+

20 rows selected (1.918 seconds)