Note:

1. The format of the results of your code should match the results given in each problem in the assignment.

1. Load data from **flightdata2018.json** and **airports.json**

1.1. Show the most important airports according to pageRank (resetProbability=0.15, maxIter=10). The result should be displayed in descending order of pagerank.

```
+-------------+-------+-----+---+------------------+
|         City|Country|State| id|          pagerank|
+-------------+-------+-----+---+------------------+
|      Chicago|    USA|   IL|ORD|1.4211326956258579|
|      Atlanta|    USA|   GA|ATL|  1.33899701647475|
|  Los Angeles|    USA|   CA|LAX|1.2010647369507021|
|       Dallas|    USA|   TX|DFW|1.1270726146980268|
|       Denver|    USA|   CO|DEN|1.0590628954666945|
|San Francisco|    USA|   CA|SFO| 1.024613545715291|
|     New York|    USA|   NY|LGA| 0.944904144364847|
|       Boston|    USA|   MA|BOS|0.8774889102399679|
|       Newark|    USA|   NJ|EWR|0.8731704325952224|
|        Miami|    USA|   FL|MIA|0.8507611366338751|
|      Houston|    USA|   TX|IAH|0.8350494969576363|
|    Charlotte|    USA|   NC|CLT|0.8049025258214721|
|      Seattle|    USA|   WA|SEA| 0.641779848455657|
+-------------+-------+-----+---+------------------+
```

1.2 Show the average delay of each Scheduled Depart Hour (crsdephour) from LGA airport. The result should be displayed in descending order of average delay.

```
+---------+------------------+
|crsdephour|        avg(delay)|
+---------+------------------+
|       21| 58.51034482758621|
|       19| 58.48443579766537|
|       18| 58.30467289719626|
|       15| 56.19718309859155|
|       22|52.986666666666665|
|       20| 52.81941309255079|
|       17| 49.28086419753087|
|       16| 43.59234234234234|
|       13| 42.80222222222222|
|       12| 42.41463414634146|
|       14|40.632603406326034|
|       11| 38.05428571428571|
|        9| 37.07849829351536|
|        7| 36.63453815261044|
|       10|  34.9458762886598|
|        8| 34.69613259668508|
|        6| 30.15813953488372|
|        5| 27.73170731707317|
+---------+------------------+
```

1.3. Find all destinations that does not have direct flight from LGA but can be reached with one transit. The result should be display in the ascending order of the id of destination and transit airport.

```
+------+-----------+-------+
|origin|destination|transit|
+------+-----------+-------+
|LGA   |EWR        |ATL    |
|LGA   |EWR        |BOS    |
|LGA   |EWR        |CLT    |
|LGA   |EWR        |DEN    |
|LGA   |EWR        |DFW    |
|LGA   |EWR        |IAH    |
|LGA   |EWR        |MIA    |
|LGA   |EWR        |ORD    |
|LGA   |LAX        |ATL    |
|LGA   |LAX        |BOS    |
|LGA   |LAX        |CLT    |
|LGA   |LAX        |DEN    |
|LGA   |LAX        |DFW    |
|LGA   |LAX        |IAH    |
|LGA   |LAX        |MIA    |
|LGA   |LAX        |ORD    |
|LGA   |SEA        |ATL    |
|LGA   |SEA        |BOS    |
|LGA   |SEA        |CLT    |
|LGA   |SEA        |DEN    |
|LGA   |SEA        |DFW    |
|LGA   |SEA        |IAH    |
|LGA   |SEA        |MIA    |
|LGA   |SEA        |ORD    |
|LGA   |SFO        |ATL    |
|LGA   |SFO        |BOS    |
|LGA   |SFO        |CLT    |
|LGA   |SFO        |DEN    |
|LGA   |SFO        |DFW    |
|LGA   |SFO        |IAH    |
|LGA   |SFO        |MIA    |
|LGA   |SFO        |ORD    |
+------+-----------+-------+
```

1.4. Computes shortest paths from each airport to LGA.

```
+---+----------+
| id| distances|
+---+----------+
|IAH|[LGA -> 1]|
|CLT|[LGA -> 1]|
|LAX|[LGA -> 2]|
|DEN|[LGA -> 1]|
|DFW|[LGA -> 1]|
|SFO|[LGA -> 2]|
|LGA|[LGA -> 0]|
|ORD|[LGA -> 1]|
|MIA|[LGA -> 1]|
|SEA|[LGA -> 2]|
|ATL|[LGA -> 1]|
|BOS|[LGA -> 1]|
|EWR|[LGA -> 2]|
+---+----------+
```