In [1]:
```python
%%file q1.py
from mrjob.job import MRJob
from mrjob.step import MRStep

class ReverseWebLinkGraph(MRJob):
    def mapper(self, _, line):
        vertex, neighbors = line.strip().split('->')
        neighborsList = neighbors.split(',')

        for nieghbor in neighborsList:
            yield nieghbor,vertex

    def reducer(self, key, values):
        yield key, list(values)

    def steps(self):
        return [
            MRStep(mapper=self.mapper, reducer=self.reducer)
        ]

if __name__ == '__main__':
    ReverseWebLinkGraph.run()
```

Writing q1.py

In [2]:
```
!python q1.py file.txt
```

```
"0"     ["4"]
"1"     ["3"]
"2"     ["1","5","7"]
"3"     ["2","6"]
"4"     ["1","2"]
"6"     ["5"]

No configs found; falling back on auto-configuration
No configs specified for inline runner
Creating temp directory C:\Users\DELL\AppData\Local\Temp\q1.DELL.20240430.170913.836651
Running step 1 of 1...
job output is in C:\Users\DELL\AppData\Local\Temp\q1.DELL.20240430.170913.836651\output
Streaming final output from C:\Users\DELL\AppData\Local\Temp\q1.DELL.20240430.170913.836651\output...
Removing temp directory C:\Users\DELL\AppData\Local\Temp\q1.DELL.20240430.170913.836651...
```

In [ ]: