DRL Global Routing Implementation (Week 03/25/19; Week 04/01/19):

Important points:

1. Make sure working on benchmark/benchmark_reduced in Router.py file
2. Github version local address: DARPA IDEA/1.Project/Github/GlobalRouting
3. Reduced capacity set to 3

Pending problem:

1. Rewrite test function
2. Rewrite pipeline
3. Plot pure reward with log plot (use Wentai's plot code)
4. A* capacity update issue (Prof Kara asked, check notes&code)

Documents

03/25

Based on 03/22 experiment:
Parameters that only work is : python GenSolEvalComp_Pipeline.py --benchNumber 5 --gridSize 16 --netNum 30 --capacity 3 --maxPinNum 8 --reducedCapNum 3
Tomcat RunningCase05_Mar222019
One Sol: DRL less WL, but 1 OF; in another case DRL worse than A* (0325)

Conclusion: might as well submit existing results to JMD
Intuition: not because problem type does not fits DRL well enough, more likely existing DRL model is not powerful enough

03/29

Based on 03/29 experiment:
Tomcat RunningCase01_Mar292019
python GenSolEvalComp_Pipeline.py --benchNumber 5 --gridSize 16 --netNum 30 --capacity 3 --maxPinNum 8 --reducedCapNum 3

04/02

Latest version (9 states representation, removing x,y,z):
Tomcat RunningCase01_Mar292019 (Running...)
remove x, y, z of existing location from state representation
python GenSolEvalComp_Pipeline.py --benchNumber 5 --gridSize 16 --netNum 30 --capacity 3 --maxPinNum 8 --reducedCapNum 3
Primary result: DRL much worse than A*

04/03

Version: random order nets case (Router: shuffle added), seed added to benchmark generator
Tomcat RunningCase01_Apr032019 (Running...)
python GenSolEvalComp_Pipeline.py --benchNumber 5 --gridSize 16 --netNum 30 --capacity 3 --maxPinNum 8 --reducedCapNum 3

04/05

Pipelines for rewriting the code done, start rewriting codes. Expected to be done in three days.

Newest version: Tomcat RunningCase01_Apr032019

(Feature: 1. Seed adde to Generator to guarantee results can be repeatable; 2. shuffle added to order nets randomly)