Analysis for truncated PR

Research question: how many movements are needed to find the best path relink solution during each execution?

Instances:

2 small: pr439, d657

2 medium: rl1889, d2103

1 large: d15112

Procedure:

Run each test instance for 5 minutes (300 seconds), using the GRASP + PR approach, with alpha=0.2, setting an unreachable target distance. Record the amount of movements for best PR solution during each call of GRASP.

Analysis:

Header: #, instance, total movements, movements to best

Histogram plotting the distribution of distance from base or target

./tspProblem truncatedAnalysis RDSNN first 1 file instances/small/pr439.tsp 0 ql 4 1 30 20 | grep "#" > pr439\_data.txt

./tspProblem truncatedAnalysis RDSNN first 1 file instances/small/d657.tsp 0 ql 4 1 30 20 | grep "#" > d657\_data.txt

./tspProblem truncatedAnalysis RDSNN first 1 file instances/medium/rl1889.tsp 0 ql 4 1 30 20 | grep "#" > rl1889\_data.txt

./tspProblem truncatedAnalysis RDSNN first 1 file instances/medium/d2103.tsp 0 ql 4 1 30 20 | grep "#" > d2103.txt

./tspProblem truncatedAnalysis RDSNN first 1 file instances/large/d15112.tsp 0 ql 4 1 30 20 | grep "#" > d15112.txt

Comparison

20 seconds, alpha = 0.2, RDSNN, first

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Seed |  | iterations | | distance | |
|  | Instance | forward | truncated | forward | truncated |
| 1 | d2103 | 4 | 36 | 93958 | 93915 |
| 2 | d2103 | 4 | 36 | 93887 | 93538 |
| 3 | d2103 | 4 | 35 | 93503 | 93452 |
| 1 | rl1889 | 5 | 46 | 362457 | 346826 |
| 2 | rl1889 | 5 | 46 | 358396 | 354126 |
| 3 | rl1889 | 5 | 46 | 350710 | 351597 |