

# Algorytmy i struktury danych - Lista 4

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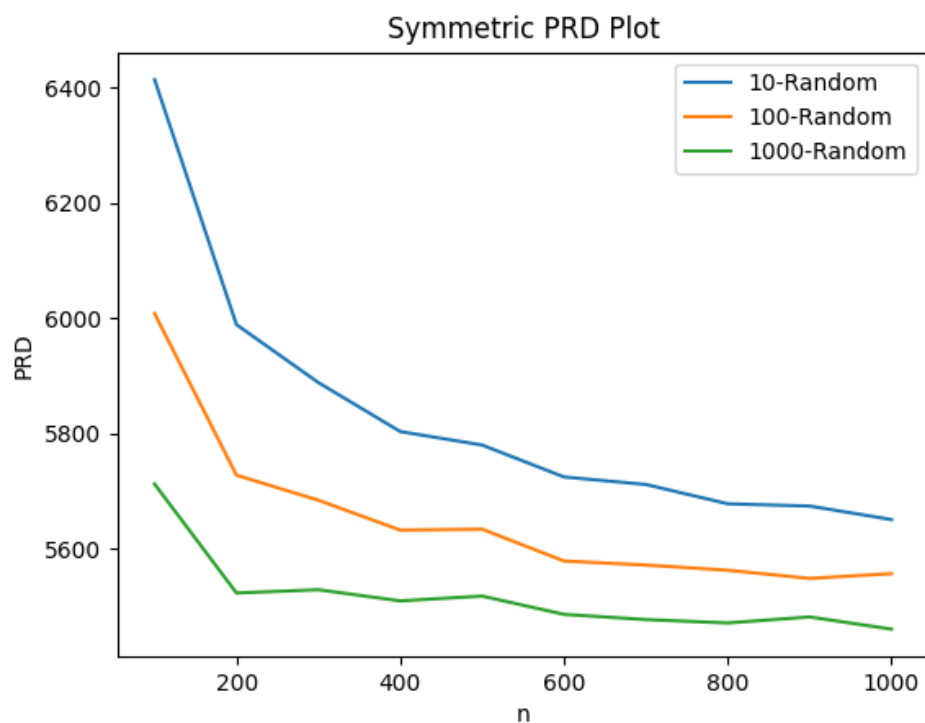
28 marca 2022

## 1 Algorytm k-random

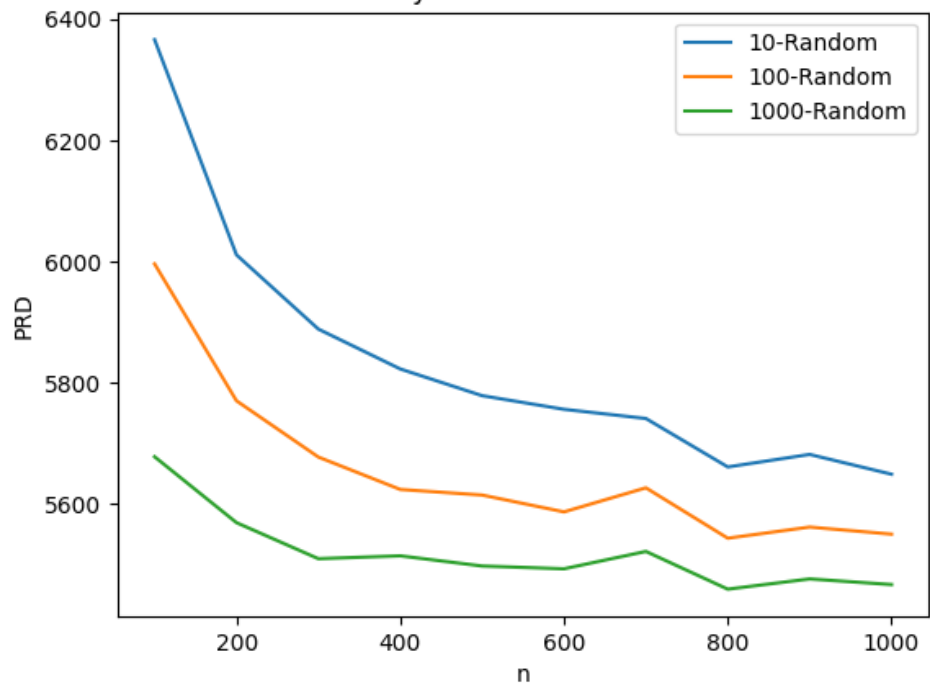
### 1.1 Tabela

Average PRD			
n	10-Random	100-Random	1000-Random
100	6413.9156401721075	6007.918586928952	5711.806977951733
200	5988.615372379403	5727.247304868426	5522.69171607988
300	5888.036831784668	5683.792028830031	5528.337270981829
400	5802.963142088209	5631.843379656301	5508.994282851
500	5779.552537965469	5633.505579085746	5517.331574583659
600	5724.137341197624	5578.206097637371	5485.583014224162
700	5711.069467439124	5571.201094319976	5476.566562989776
800	5677.560472641102	5562.185079759854	5470.719995332991
900	5673.623396583947	5548.007479574144	5481.1123195262335
1000	5650.144622314967	5556.232385763668	5459.875331845722

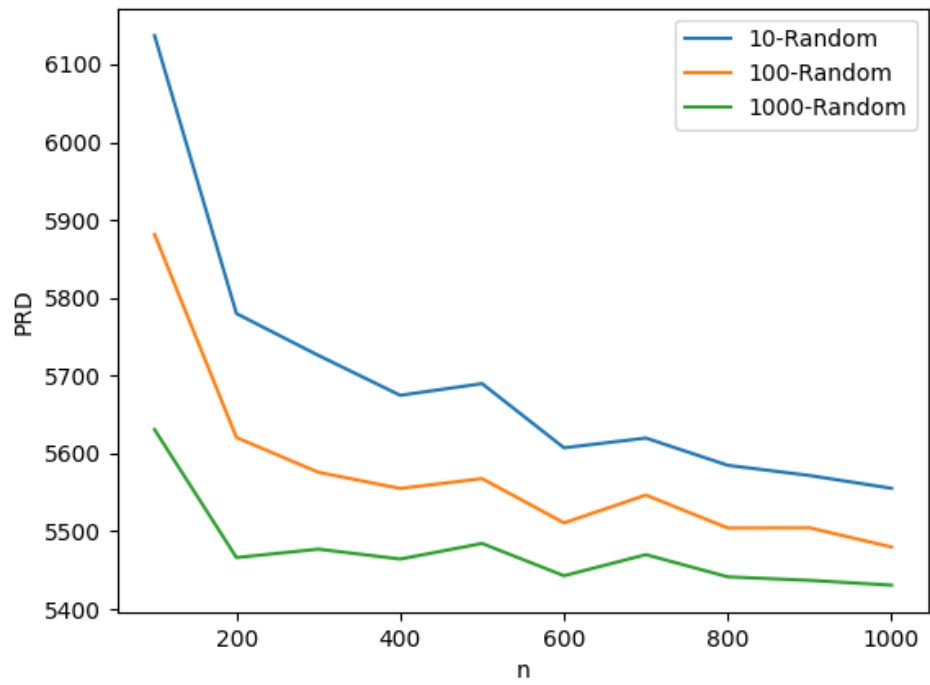
### 1.2 Wykresy



Asymmetric PRD Plot



Euclid PRD Plot



## 2 Porównanie algorytmów na grafach euklidesowych z TSPLIB

### 2.1 Tabele

Average PRD			
n	1000-Random	Extended-Neighbours	2-OPT
280	1190.481	105.355	94.110
52	313.842	98.473	92.241
130	655.514	105.463	93.669
150	722.093	100.510	91.808
51	304.930	103.146	91.878
76	390.223	103.011	92.974
105	719.383	107.776	95.285
442	1410.979	106.094	94.210
76	437.657	111.045	94.849
100	599.637	109.201	95.515
70	443.081	107.926	97.704
225	958.394	110.576	94.255

Average Time			
n	1000-Random	Extended-Neighbours	2-OPT
280	1824391000	7216115200	12956555100
52	337466300	53224900	100680300
130	847446300	776220800	1495083700
150	1216246900	1413185300	2831431300
51	397964700	70906500	135488700
76	529495400	169370500	342460800
105	826099200	562516800	1193324400
442	2925433800	28520444700	53773197200
76	451942500	153868400	348626900
100	599398700	332370900	876795000
70	435804700	123948500	285729600
225	1336604800	3619145800	7337685000

Maximal Time			
n	1000-Random	Extended-Neighbours	2-OPT
280	226062700	800549100	1374390600
52	36579000	5832400	11066200
130	103836900	84908600	173113200
150	196152300	201122200	433930400
51	52224600	11076500	18398300
76	66321000	20809800	38979800
105	103035700	73946000	164836700
442	330026000	3123459200	5680294300
76	45770600	15989400	35452500
100	61684700	34254200	90924800
70	50222300	15401600	34864000
225	137559000	367219200	757268500

2.2 Wykresy

