Lab5: Finding community structures

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1 Introduction

2 Results

	TPT	expansion	conductance	modularity
edge.betweenness	1.000	5.833	0.538	0.433
fastgreedy	1.000	5.833	0.538	0.433
label.propagation	1.000	4.167	0.333	0.000
leading.eigenvector	1.000	4.167	0.333	0.000
multilevel	1.000	5.833	0.538	0.433
optimal	1.000	5.833	0.538	0.433
spinglass	1.000	5.833	0.538	0.433
walktrap	1.000	5.833	0.538	0.433
infomap	1.000	5.833	0.538	0.433

Table 1: Metrics for HanoiTower(6,2)

3 Discussion

4 Methods

	TPT	expansion	conductance	modularity
edge.betweenness	0.000	1.933	0.476	0.451
fastgreedy	0.000	2.000	0.501	0.411
label.propagation	0.000	1.667	0.385	0.389
leading.eigenvector	0.000	1.667	0.385	0.389
multilevel	0.000	1.933	0.476	0.451
optimal	0.000	1.933	0.476	0.451
spinglass	0.000	1.933	0.476	0.451
walktrap	0.000	1.933	0.476	0.451
infomap	0.000	1.867	0.456	0.416

Table 2: Metrics for Double Star Snark

	TPT	expansion	conductance	modularity
edge.betweenness	0.600	2.467	0.529	0.228
fastgreedy	0.400	2.733	0.609	0.217
label.propagation	0.800	2.067	0.419	0.104
leading.eigenvector	1.000	1.800	0.333	0.000
multilevel	0.600	2.600	0.565	0.222
optimal	0.600	2.467	0.530	0.239
spinglass	0.400	2.600	0.577	0.230
walktrap	0.400	2.600	0.575	0.181
infomap	1.000	1.800	0.333	0.000

Table 3: Metrics for DorovtsevGoltsevMendes3 Graph

	TPT	expansion	conductance	modularity
edge.betweenness	0.280	2.160	0.600	0.222
fastgreedy	0.280	2.160	0.600	0.222
label.propagation	1.000	1.440	0.333	0.000
leading.eigenvector	1.000	1.440	0.333	0.000
multilevel	0.280	2.160	0.600	0.222
optimal	0.360	2.080	0.578	0.222
spinglass	0.280	2.160	0.600	0.222
walktrap	0.360	2.080	0.578	0.222
infomap	1.000	1.440	0.333	0.000

Table 4: Metrics for Friendship(12) Graph

	TPT	expansion	conductance	modularity
edge.betweenness	0.000	1.125	0.404	0.675
fastgreedy	0.000	1.150	0.414	0.666
label.propagation	0.000	1.150	0.414	0.666
leading.eigenvector	0.000	0.975	0.333	0.000
multilevel	0.000	1.150	0.414	0.666
optimal	0.000	1.125	0.404	0.675
spinglass	0.000	1.175	0.428	0.675
walktrap	0.000	1.200	0.427	0.660
infomap	0.000	1.200	0.427	0.660

Table 5: Metrics for Balanced Tree(3,3)

	TPT	expansion	conductance	modularity
edge.betweenness	0.769	6.692	0.548	0.001
fastgreedy	1.000	6.462	0.496	0.025
label.propagation	1.000	5.077	0.333	0.000
leading.eigenvector	1.000	6.462	0.496	0.025
multilevel	1.000	6.462	0.496	0.025
optimal	1.000	7.308	0.568	0.027
spinglass	1.000	7.308	0.568	0.027
walktrap	1.000	6.462	0.496	0.025
infomap	1.000	5.077	0.333	0.000

Table 6: Metrics for Complement of a Balanced Tree (3,2)