UNIVERSIDADE FEDERAL DA FRONTEIRA SUL CAMPUS CHAPECÓ CURSO DE CIÊNCIA DA COMPUTAÇÃO

IMPLEMENTAÇÃO DA VIZINHANÇA NODE SWAP

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Discussão:

A vizinhança node swap foi implementada como uma alternativa para complementar os operadores já existentes no algoritmo de busca local, como o 2-opt e o shift. Nos testes realizados, a nova vizinhança apresentou um comportamento interessante, mas com limitações em relação à qualidade das soluções encontradas.

Em geral, o node swap gerou soluções com valores de qualidade (q-medio) significativamente mais altos que os obtidos pelo 2-opt e shift, indicando que a troca de nós não conseguiu otimizar as rotas de forma tão eficaz. Isso sugere que o node swap enfrentou dificuldades em encontrar soluções próximas do ótimo, apresentando desvios consideráveis em relação às melhores soluções encontradas.

Por outro lado, o node swap se destacou em termos de tempo de execução, sendo comparável aos outros métodos. Apesar de não ter oferecido soluções tão boas, a simplicidade da operação de troca de nós contribuiu para um tempo de execução competitivo, especialmente em instâncias menores.

De maneira geral, a vizinhança node swap mostrou-se válida para explorar soluções alternativas, mas com limitações em alcançar ótimos locais de qualidade comparável a outras abordagens, como o 2-opt. Ela pode ser útil como um complemento na busca por diversidade de soluções, embora não tenha se mostrado tão eficaz isoladamente para otimização em instâncias mais complexas.

Segue nas páginas abaixo as tabelas:

Instância	autoria	algoritmo	q-medio	q-desvio	t-medio	% do ótimo
Instância: D)jibouti					
Djibouti	YuriLanzini	BLMM2opt	7166.0	0.0	0.0	107.66
Djibouti	YuriLanzini	BLMM2opt	6656.0	0.0	0.0	100.0
Djibouti	YuriLanzini	BLMM2opt	6657.0	0.0	0.0	100.02
Djibouti	YuriLanzini	BLMM2opt	6995.0	0.0	0.0	105.09
Djibouti	YuriLanzini	BLMM2opt	6657.0	0.0	0.0	100.02
Djibouti	YuriLanzini	BLMM2opt	6656.0	0.0	0.0	100.0
Djibouti	YuriLanzini	BLMM2opt	6707.0	0.0	0.0	100.77
	YuriLanzini	BLMM2opt	6808.0	0.0	0.0	102.28
Djibouti						
Djibouti	YuriLanzini	BLMM2opt	6995.0	0.0	0.0	105.09
Djibouti	YuriLanzini	BLMM2opt	6656.0	0.0	0.0	100.0
Djibouti	YuriLanzini	BLMMnode-swap	9832.0	0.0	0.01	147.72
Djibouti	YuriLanzini	BLMMnode-swap	9357.0	0.0	0.01	140.58
Djibouti	YuriLanzini	BLMMnode-swap	9649.0	0.0	0.0	144.97
Djibouti	YuriLanzini	BLMMnode-swap	9355.0	0.0	0.0	140.55
Djibouti	YuriLanzini	BLMMnode-swap	12450.0	0.0	0.0	187.05
Djibouti	YuriLanzini	BLMMnode-swap	10453.0	0.0	0.0	157.05
Djibouti	YuriLanzini	BLMMnode-swap	10802.0	0.0	0.0	162.29
Djibouti	YuriLanzini	BLMMnode-swap	10727.7	18.02	0.01	161.17
Djibouti	YuriLanzini	BLMMnode-swap	8929.0	0.0	0.0	134.15
Djibouti	YuriLanzini	BLMMnode-swap	9923.0	0.0	0.0	149.08
Djibouti	YuriLanzini	BLMMsh	8798.0	0.0	0.01	132.18
Djibouti	YuriLanzini	BLMMsh	8600.8	151.16	10.0	129.22
Djibouti	YuriLanzini	BLMMsh	9663.3	55.46	0.01	145.18
Djibouti	YuriLanzini	BLMMsh	8655.0	0.0	0.01	130.03
Djibouti	YuriLanzini	BLMMsh	8827.8	2.53	0.01	132.63
Djibouti	YuriLanzini	BLMMsh	8045.0	0.0	0.0	120.87
Djibouti	YuriLanzini	BLMMsh	7869.0	0.0	0.01	118.22
Djibouti	YuriLanzini	BLMMsh	8219.0	0.0	0.01	123.48
Djibouti	YuriLanzini	BLMMsh	8890.0	0.0	0.01	133.56
Djibouti	YuriLanzini	BLMMsh	7495.0	0.0	0.01	112.61
Djibouti	YuriLanzini	BLPM2opt	6808.0	0.0	0.0	102.28
Djibouti	YuriLanzini	BLPM2opt	7231.0	0.0	0.0	108.64
Djibouti	YuriLanzini	BLPM2opt	7156.0	0.0	0.0	107.51
Djibouti	YuriLanzini	BLPM2opt	6808.0	0.0	0.0	102.28
Djibouti	YuriLanzini	BLPM2opt	7156.0	0.0	0.0	107.51
Djibouti	YuriLanzini	BLPM2opt	7075.0	0.0	0.0	106.3
Djibouti	YuriLanzini	BLPM2opt	7156.0	0.0	0.0	107.51
Djibouti	YuriLanzini	BLPM2opt	7156.0	0.0	0.0	107.51
Djibouti	YuriLanzini	BLPM2opt	6808.0	0.0	0.0	102.28
Djibouti	YuriLanzini	BLPM2opt	6707.0	0.0	0.0	100.77
Djibouti	YuriLanzini	BLPMnode-swap	11092.0	0.0	0.0	166.65
Djibouti	YuriLanzini	BLPMnode-swap	10813.0	0.0	0.0	162.45
	YuriLanzini	BLPMnode-swap	13069.0	0.0	0.0	196.35
Djibouti		BLPMnode-swap				
Djibouti	YuriLanzini	•	10091.0	0.0	0.0	151.61
Djibouti	YuriLanzini	BLPMnode-swap	10294.0	0.0	0.0	154.66
Djibouti	YuriLanzini	BLPMnode-swap	10438.0	0.0	0.0	156.82
Djibouti	YuriLanzini	BLPMnode-swap	11775.0	0.0	0.0	176.91
Djibouti	YuriLanzini	BLPMnode-swap	12392.0	0.0	0.0	186.18
Djibouti	YuriLanzini	BLPMnode-swap	10124.0	0.0	0.0	152.1
Djibouti	YuriLanzini	BLPMnode-swap	9944.0	0.0	0.0	149.4
Djibouti	YuriLanzini	BLPMsh	8873.0	0.0	0.0	133.31
Djibouti	YuriLanzini	BLPMsh	9528.0	0.0	0.01	143.15
Djibouti	YuriLanzini	BLPMsh	8610.0	0.0	0.01	129.36
Djibouti	YuriLanzini	BLPMsh	8643.0	0.0	0.0	129.85
Djibouti	YuriLanzini	BLPMsh	7657.0	0.0	0.01	115.04
Djibouti	YuriLanzini	BLPMsh	7687.0	0.0	0.01	115.49
Djibouti	YuriLanzini	BLPMsh	9412.0	0.0	0.01	141.41
				0.0	0.01	
Diihove:	Vivit					
Djibouti Djibouti	YuriLanzini YuriLanzini	BLPMsh BLPMsh	9072.0 8278.0	0.0	0.0	136.3 124.37

Instância	autoria	algoritmo	q-medio	q-desvio	t-medio	% do ótimo
Instância:		_				
Qatar	YuriLanzini	BLMM2opt	9975.0	0.0	0.24	106.66
Qatar	YuriLanzini	BLMM2opt	10586.0	0.0	0.38	113.2
Qatar	YuriLanzini	BLMM2opt	10066.0	0.0	0.25	107.63
Qatar	YuriLanzini	BLMM2opt	10096.0	0.0	0.24	107.96
Qatar	YuriLanzini	BLMM2opt	9904.0	0.0	0.27	105.9
Qatar	YuriLanzini	BLMM2opt	10173.0	0.0	0.22	108.78
Qatar	YuriLanzini	BLMM2opt	10585.0	0.0	0.22	113.18
Qatar	YuriLanzini	BLMM2opt	10247.0	0.0	0.29	109.57
Qatar	YuriLanzini	BLMM2opt	9972.0	0.0	0.26	106.63
Qatar	YuriLanzini	BLMM2opt	10350.0	0.0	0.33	110.67
Qatar	YuriLanzini	BLMMnode-swap	20360.0	0.0	0.35	217.71
Qatar	YuriLanzini	BLMMnode-swap	20402.3	367.07	0.38	218.16
Qatar	YuriLanzini	BLMMnode-swap	19705.0	0.0	0.41	210.7
Qatar	YuriLanzini	BLMMnode-swap	18936.4	247.92	0.38	202,49
Qatar	YuriLanzini	BLMMnode-swap	24964.4	04.09	0.39	266.94
Qatar	YuriLanzini	BLMMnode-swap	19980.2	38.58	0.54	213.65
Qatar	YuriLanzini YuriLanzini	BLMMnode-swap	24476.2 20310.7	50.63	0.35	261.72 217.18
Qatar	YuriLanzini	BLMMnode-swap	20310.7	12.33	0.39	236.68
Qatar	YuriLanzini	BLMMnode-swap	21673.0	0.0	0.32	231.75
Qatar	YuriLanzini	BLMMsh	15640.4	26.14	0.85	167.24
Qatar	YuriLanzini	BLMMsh	13091.4	104.15	0.93	139.99
Qatar	YuriLanzini	BLMMsh	14922.0	0.0	0.78	159.56
Qatar	YuriLanzini	BLMMsh	14277.0	0.0	0.76	152.66
Qatar	YuriLanzini	BLMMsh	16563.0	0.0	0.73	177.11
Qatar	YuriLanzini	BLMMsh	12851.0	0.0	1.1	137.41
Qatar	YuriLanzini	BLMMsh	14885.0	0.0	0.87	159.16
Qatar	YuriLanzini	BLMMsh	13088.0	0.0	0.93	139.95
Qatar	YuriLanzini	BLMMsh	14610.1	05.02	0.86	156.22
Qatar	YuriLanzini	BLMMsh	13085.0	0.0	0.83	139.92
Qatar	YuriLanzini	BLPM2opt	10433.0	0.0	0.28	111.56
Qatar	YuriLanzini	BLPM2opt	9956.0	0.0	0.34	106.46
Qatar	YuriLanzini	BLPM2opt	10269.0	0.0	0.31	109.81
Qatar	YuriLanzini	BLPM2opt	9994.0	0.0	0.26	106.86
Qatar	YuriLanzini	BLPM2opt	10066.0	0.0	0.5	107.63
Qatar	YuriLanzini	BLPM2opt	10015.0	0.0	0.28	107.09
Qatar	YuriLanzini	BLPM2opt	10164.0	0.0	0.33	108.68
Qatar	YuriLanzini	BLPM2opt	9807.0	0.0	0.33	104.87
Qatar	YuriLanzini	BLPM2opt	9896.0	0.0	0.24	105.82
Qatar	YuriLanzini	BLPM2opt	10340.0	0.0	0.28	110.56
Qatar	YuriLanzini	BLPMnode-swap	20752.0	0.0	0.16	221.9
Qatar	YuriLanzini	BLPMnode-swap	16672.0	0.0	0.31	178.27
Qatar	YuriLanzini	BLPMnode-swap	18158.0	0.0	0.23	194.16
Qatar	YuriLanzini	BLPMnode-swap	18039.0	0.0	0.34	192.89
Qatar	YuriLanzini	BLPMnode-swap	18580.0	0.0	0.19	198.67
Qatar	YuriLanzini	BLPMnode-swap	18739.0	0.0	0.36	200.37
Qatar	YuriLanzini	BLPMnode-swap	20482.0	0.0	0.2	219.01
Qatar	YuriLanzini	BLPMnode-swap	17259.0	0.0	0.33	184.55
Qatar	YuriLanzini	BLPMnode-swap	19049.0	0.0	0.26	203.69
Qatar	YuriLanzini	BLPMnode-swap	19113.0	0.0	0.29	204.37
Qatar	YuriLanzini	BLPMsh BLPMsh	14847.0	0.0	0.47	158.76
Qatar	YuriLanzini YuriLanzini	BLPMsh BLPMsh	13732.0 12241.0	0.0	0.52	146.83 130.89
Qatar	YuriLanzini	BLPMsh	14113.0	0.0	0.47	150.91
Qatar	YuriLanzini	BLPMsh	12678.0	0.0	0.43	135.56
Qatar	YuriLanzini	BLPMsh	14601.0	0.0	0.83	135.56
Qatar	YuriLanzini	BLPMsh	12026.0	0.0	0.67	128.59
Qatar	YuriLanzini	BLPMsh	13552.0	0.0	0.64	144.91
Qatar	YuriLanzini	BLPMsh	11860.0	0.0	0.45	126.82
Qatar	YuriLanzini	BLPMsh	12202.0	0.0	0.54	130.47
	. wildingilli	A 171011		0.0	U107	.20.37

Charges Violational Modeling Violational Modeling Violational Modeling Altitude Modeling Altitude	Instância	autoria	algoritmo	q-medio	q-desvio	t-medio	% do ótimo
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Originy Virtilation IILMininde-weep 35101-55 97511-65 44.54 418.4 Originy Virtilation BLMininde-weep 35081-2 97811-65 44.54 418.4 Originy Virtilation BLMininde-weep 35881-0 2177.77 4.94 43.54 Originy Virtilation BLMininde-weep 35881-0 1911-42 44.7 42.72 Originy Virtilation BLMininde-weep 35807-1 1912-42 43.7 42.72 Originy Virtilation BLMininde-weep 34672-1 1920-4 46.51 42.56 Originy Virtilation BLMininde-weep 34672-1 1917-9 46.7 42.56 Originy Virtilation BLMininde-weep 33672-1 1917-9 46.1 42.56 Originy Virtilation BLMininde-weep 33672-1 1917-9 46.1 42.56 Originy Virtilation BLMininde-weep 33672-1 1917-9 46.1 42.56 Originy							
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Uruguay YuriLanzini BLPMnode-swap 232389.5 11645.15 19.79 293.74 Uruguay YuriLanzini BLPMnode-swap 247579.2 12667.53 20.8 312.94 Uruguay YuriLanzini BLPMnode-swap 222951.9 6643.38 16.0 281.81 Uruguay YuriLanzini BLPMnode-swap 243422.8 21141.42 28.68 307.69 Uruguay YuriLanzini BLPMnode-swap 224784.3 10097.0 19.5 284.13 Uruguay YuriLanzini BLPMnode-swap 236550.2 14375.55 22.67 299.0 Uruguay YuriLanzini BLPMsh 196943.6 95047.62 63.28 248.94 Uruguay YuriLanzini BLPMsh 190637.5 83188.85 52.28 240.97 Uruguay YuriLanzini BLPMsh 157153.9 56949.16 45.1 198.64 Uruguay YuriLanzini BLPMsh 15701.9 47117.73 40.85 198.46 Uruguay Yuri							
Uruguay YuriLanzini BLPMnode-swap 247579.2 12667.53 20.8 312.94 Uruguay YuriLanzini BLPMnode-swap 222951.9 6643.38 16.0 281.81 Uruguay YuriLanzini BLPMnode-swap 243422.8 21141.42 28.68 307.69 Uruguay YuriLanzini BLPMnode-swap 224784.3 10097.0 19.5 284.13 Uruguay YuriLanzini BLPMnode-swap 236550.2 14375.55 22.67 299.0 Uruguay YuriLanzini BLPMsh 196943.6 95047.62 63.28 248.94 Uruguay YuriLanzini BLPMsh 19637.5 83188.85 52.28 240.97 Uruguay YuriLanzini BLPMsh 197092.6 96274.18 52.99 249.12 Uruguay YuriLanzini BLPMsh 157153.9 56949.16 45.1 198.64 Uruguay YuriLanzini BLPMsh 143594.6 41188.07 36.11 181.5 Uruguay YuriLanzini<							
Uruguay YuriLanzini BLPMnode-swap 222951.9 6643.38 16.0 281.81 Uruguay YuriLanzini BLPMnode-swap 243422.8 21141.42 28.68 307.69 Uruguay YuriLanzini BLPMnode-swap 224784.3 10097.0 19.5 284.13 Uruguay YuriLanzini BLPMnode-swap 236550.2 14375.55 22.67 299.0 Uruguay YuriLanzini BLPMsh 196943.6 95047.62 63.28 248.94 Uruguay YuriLanzini BLPMsh 190637.5 83188.85 52.28 240.97 Uruguay YuriLanzini BLPMsh 197092.6 96274.18 52.99 249.12 Uruguay YuriLanzini BLPMsh 157153.9 56949.16 45.1 198.64 Uruguay YuriLanzini BLPMsh 143594.6 41188.07 36.11 181.5 Uruguay YuriLanzini BLPMsh 157011.9 47117.73 40.85 198.46 Uruguay YuriLanzini							
Uruguay YuriLanzini BLPMnode-swap 243422.8 21141.42 28.68 307.69 Uruguay YuriLanzini BLPMnode-swap 224784.3 10097.0 19.5 284.13 Uruguay YuriLanzini BLPMnode-swap 236550.2 14375.55 22.67 299.0 Uruguay YuriLanzini BLPMsh 196943.6 95047.62 63.28 248.94 Uruguay YuriLanzini BLPMsh 190637.5 83188.85 52.28 240.97 Uruguay YuriLanzini BLPMsh 197092.6 96274.18 52.99 249.12 Uruguay YuriLanzini BLPMsh 157153.9 56949.16 45.1 198.64 Uruguay YuriLanzini BLPMsh 143594.6 41188.07 36.11 181.5 Uruguay YuriLanzini BLPMsh 157011.9 47117.73 40.85 198.46 Uruguay YuriLanzini BLPMsh 193518.9 87703.05 61.06 244.61 Uruguay YuriLanzini							
Uruguay YuriLanzini BLPMnode-swap 224784.3 10097.0 19.5 284.13 Uruguay YuriLanzini BLPMnode-swap 236550.2 14375.55 22.67 299.0 Uruguay YuriLanzini BLPMnode-swap 231428.5 12565.77 17.21 292.53 Uruguay YuriLanzini BLPMsh 196943.6 95047.62 63.28 248.94 Uruguay YuriLanzini BLPMsh 190637.5 83188.85 52.28 240.97 Uruguay YuriLanzini BLPMsh 197092.6 96274.18 52.99 249.12 Uruguay YuriLanzini BLPMsh 157153.9 56949.16 45.1 198.64 Uruguay YuriLanzini BLPMsh 143594.6 41188.07 36.11 181.5 Uruguay YuriLanzini BLPMsh 157011.9 47117.73 40.85 198.46 Uruguay YuriLanzini BLPMsh 193518.9 87703.05 61.06 244.61 Uruguay YuriLanzini							
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Uruguay YuriLanzini BLPMnode-swap 231428.5 12565.77 17.21 292.53 Uruguay YuriLanzini BLPMsh 196943.6 95047.62 63.28 248.94 Uruguay YuriLanzini BLPMsh 190637.5 83188.85 52.28 240.97 Uruguay YuriLanzini BLPMsh 197092.6 96274.18 52.99 249.12 Uruguay YuriLanzini BLPMsh 157153.9 56949.16 45.1 198.64 Uruguay YuriLanzini BLPMsh 143594.6 41188.07 36.11 181.5 Uruguay YuriLanzini BLPMsh 157011.9 47117.73 40.85 198.46 Uruguay YuriLanzini BLPMsh 193518.9 87703.05 61.06 244.61 Uruguay YuriLanzini BLPMsh 168098.3 60431.17 43.9 212.48		YuriLanzini	BLPMnode-swap	224784.3	10097.0	19.5	284.13
Uruguay YuriLanzini BLPMsh 196943.6 95047.62 63.28 248.94 Uruguay YuriLanzini BLPMsh 190637.5 83188.85 52.28 240.97 Uruguay YuriLanzini BLPMsh 197092.6 96274.18 52.99 249.12 Uruguay YuriLanzini BLPMsh 157153.9 56949.16 45.1 198.64 Uruguay YuriLanzini BLPMsh 143594.6 41188.07 36.11 181.5 Uruguay YuriLanzini BLPMsh 157011.9 47117.73 40.85 198.46 Uruguay YuriLanzini BLPMsh 193518.9 87703.05 61.06 244.61 Uruguay YuriLanzini BLPMsh 168098.3 60431.17 43.9 212.48	Uruguay						
Uruguay YuriLanzini BLPMsh 190637.5 83188.85 52.28 240.97 Uruguay YuriLanzini BLPMsh 197092.6 96274.18 52.99 249.12 Uruguay YuriLanzini BLPMsh 157153.9 56949.16 45.1 198.64 Uruguay YuriLanzini BLPMsh 143594.6 41188.07 36.11 181.5 Uruguay YuriLanzini BLPMsh 157011.9 47117.73 40.85 198.46 Uruguay YuriLanzini BLPMsh 193518.9 87703.05 61.06 244.61 Uruguay YuriLanzini BLPMsh 168098.3 60431.17 43.9 212.48		YuriLanzini	BLPMnode-swap	236550.2	14375.55	22.67	299.0
Uruguay YuriLanzini BLPMsh 197092.6 96274.18 52.99 249.12 Uruguay YuriLanzini BLPMsh 157153.9 56949.16 45.1 198.64 Uruguay YuriLanzini BLPMsh 143594.6 41188.07 36.11 181.5 Uruguay YuriLanzini BLPMsh 157011.9 47117.73 40.85 198.46 Uruguay YuriLanzini BLPMsh 193518.9 87703.05 61.06 244.61 Uruguay YuriLanzini BLPMsh 168098.3 60431.17 43.9 212.48	Uruguay	YuriLanzini YuriLanzini	BLPMnode-swap	236550.2 231428.5	14375.55 12565.77	22.67 17.21	299.0 292.53
Uruguay YuriLanzini BLPMsh 157153.9 56949.16 45.1 198.64 Uruguay YuriLanzini BLPMsh 143594.6 41188.07 36.11 181.5 Uruguay YuriLanzini BLPMsh 157011.9 47117.73 40.85 198.46 Uruguay YuriLanzini BLPMsh 193518.9 87703.05 61.06 244.61 Uruguay YuriLanzini BLPMsh 168098.3 60431.17 43.9 212.48	Uruguay Uruguay	YuriLanzini YuriLanzini YuriLanzini	BLPMnode-swap BLPMnode-swap BLPMsh	236550.2 231428.5 196943.6	14375.55 12565.77 95047.62	22.67 17.21 63.28	299.0 292.53 248.94
Uruguay YuriLanzini BLPMsh 143594.6 41188.07 36.11 181.5 Uruguay YuriLanzini BLPMsh 157011.9 47117.73 40.85 198.46 Uruguay YuriLanzini BLPMsh 193518.9 87703.05 61.06 244.61 Uruguay YuriLanzini BLPMsh 168098.3 60431.17 43.9 212.48	Uruguay Uruguay Uruguay	YuriLanzini YuriLanzini YuriLanzini YuriLanzini	BLPMnode-swap BLPMsh BLPMsh	236550.2 231428.5 196943.6 190637.5	14375.55 12565.77 95047.62 83188.85	22.67 17.21 63.28 52.28	299.0 292.53 248.94 240.97
Uruguay YuriLanzini BLPMsh 157011.9 47117.73 40.85 198.46 Uruguay YuriLanzini BLPMsh 193518.9 87703.05 61.06 244.61 Uruguay YuriLanzini BLPMsh 168098.3 60431.17 43.9 212.48	Uruguay Uruguay Uruguay Uruguay	YuriLanzini YuriLanzini YuriLanzini YuriLanzini YuriLanzini	BLPMnode-swap BLPMnode-swap BLPMsh BLPMsh BLPMsh	236550.2 231428.5 196943.6 190637.5 197092.6	14375.55 12565.77 95047.62 83188.85 96274.18	22.67 17.21 63.28 52.28 52.99	299.0 292.53 248.94 240.97 249.12
Uruguay YuriLanzini BLPMsh 193518.9 87703.05 61.06 244.61 Uruguay YuriLanzini BLPMsh 168098.3 60431.17 43.9 212.48	Uruguay Uruguay Uruguay Uruguay Uruguay	YuriLanzini YuriLanzini YuriLanzini YuriLanzini YuriLanzini YuriLanzini	BLPMnode-swap BLPMsh BLPMsh BLPMsh BLPMsh BLPMsh	236550.2 231428.5 196943.6 190637.5 197092.6 157153.9	14375.55 12565.77 95047.62 83188.85 96274.18 56949.16	22.67 17.21 63.28 52.28 52.99 45.1	299.0 292.53 248.94 240.97 249.12
Uruguay YuriLanzini BLPMsh 168098.3 60431.17 43.9 212.48	Uruguay Uruguay Uruguay Uruguay Uruguay Uruguay	YuriLanzini YuriLanzini YuriLanzini YuriLanzini YuriLanzini YuriLanzini YuriLanzini	BLPMnode-swap BLPMsh BLPMsh BLPMsh BLPMsh BLPMsh BLPMsh	236550.2 231428.5 196943.6 190637.5 197092.6 157153.9	14375.55 12565.77 95047.62 83188.85 96274.18 56949.16 41188.07	22.67 17.21 63.28 52.28 52.99 45.1	299.0 292.53 248.94 240.97 249.12 198.64 181.5
	Uruguay Uruguay Uruguay Uruguay Uruguay Uruguay Uruguay	YuriLanzini YuriLanzini YuriLanzini YuriLanzini YuriLanzini YuriLanzini YuriLanzini	BLPMnode-swap BLPMsh BLPMsh BLPMsh BLPMsh BLPMsh BLPMsh BLPMsh	236550.2 231428.5 196943.6 190637.5 197092.6 157153.9 143594.6	14375.55 12565.77 95047.62 83188.85 96274.18 56949.16 41188.07 47117.73	22.67 17.21 63.28 52.28 52.99 45.1 36.11 40.85	299.0 292.53 248.94 240.97 249.12 198.64 181.5
Uruguay YuriLanzini BLPMsh 165148.4 59664.37 37.9 208.75	Uruguay Uruguay Uruguay Uruguay Uruguay Uruguay Uruguay Uruguay	YuriLanzini YuriLanzini YuriLanzini YuriLanzini YuriLanzini YuriLanzini YuriLanzini YuriLanzini YuriLanzini	BLPMnode-swap BLPMsh BLPMsh BLPMsh BLPMsh BLPMsh BLPMsh BLPMsh	236550.2 231428.5 196943.6 190637.5 197092.6 157153.9 143594.6 157011.9	14375.55 12565.77 95047.62 83188.85 96274.18 56949.16 41188.07 47117.73	22.67 17.21 63.28 52.28 52.99 45.1 36.11 40.85 61.06	299.0 292.53 248.94 240.97 249.12 198.64 181.5 198.46 244.61
Uruguay YuriLanzini BLPMsh 154659.3 44276.28 44.54 195.49	Uruguay Uruguay Uruguay Uruguay Uruguay Uruguay Uruguay Uruguay Uruguay	YuriLanzini	BLPMnode-swap BLPMsh BLPMsh BLPMsh BLPMsh BLPMsh BLPMsh BLPMsh BLPMsh	236550.2 231428.5 196943.6 190637.5 197092.6 157153.9 143594.6 157011.9 193518.9 168098.3	14375.55 12565.77 95047.62 83188.85 96274.18 56949.16 41188.07 47117.73 87703.05 60431.17	22.67 17.21 63.28 52.28 52.99 45.1 36.11 40.85 61.06 43.9	299.0 292.53 248.94 240.97 249.12 198.64 181.5 198.46 244.61

Instância	autoria	algoritmo	q-medio	q-desvio	t-medio	% do ótimo
Instância:	Western Sahara					
Western Sahara	YuriLanzini	BLMM2opt	28084.0	0.0	0.0	101.74
Western Sahara	YuriLanzini	BLMM2opt	28512.0	0.0	0.0	103.29
Western Sahara	YuriLanzini	BLMM2opt	28779.0	0.0	0.0	104.26
Western Sahara	YuriLanzini	BLMM2opt	28566.0	0.0	0.0	103.49
Western Sahara	YuriLanzini	BLMM2opt	28084.0	0.0	0.0	101.74
Western Sahara	YuriLanzini	BLMM2opt	28590.0	0.0	0.0	103.58
Western Sahara	YuriLanzini	BLMM2opt	28737.0	0.0	0.0	104.11
Western Sahara	YuriLanzini	BLMM2opt	28804.0	0.0	0.0	104.35
Western Sahara	YuriLanzini	BLMM2opt	27603.0	0.0	0.0	100.0
Western Sahara	YuriLanzini	BLMM2opt	29401.0	0.0	0.0	106.51
Western Sahara	YuriLanzini	BLMMnode-swap	31795.0	0.0	0.0	115.19
Western Sahara	YuriLanzini	BLMMnode-swap	30232.0	0.0	0.0	109.52
Western Sahara	YuriLanzini	BLMMnode-swap	33458.0	0.0	0.0	121.21
Western Sahara	YuriLanzini	BLMMnode-swap	34994.0	0.0	0.0	126.78
Western Sahara	YuriLanzini	BLMMnode-swap	36356.0	0.0	0.0	131.71
Western Sahara	YuriLanzini	BLMMnode-swap	39431.0	0.0	0.0	142.85
Western Sahara	YuriLanzini	BLMMnode-swap	28870.0	0.0	0.0	104.59
Western Sahara	YuriLanzini	BLMMnode-swap	36339.0	0.0	0.0	131.65
Western Sahara	YuriLanzini	BLMMnode-swap	47291.1	265.95	0.0	171.33
Western Sahara	YuriLanzini	BLMMnode-swap	37332.0	0.0	0.0	135.25
Western Sahara	YuriLanzini	BLMMsh	36740.0	0.0	0.0	133.1
Western Sahara	YuriLanzini	BLMMsh	29556.0	0.0	0.0	107.08
Western Sahara	YuriLanzini	BLMMsh	29500.0	0.0	0.0	106.87
Western Sahara	YuriLanzini	BLMMsh	29034.0	0.0	0.0	105.18
Western Sahara	YuriLanzini	BLMMsh	27603.0	0.0	0.0	100.0
Western Sahara	YuriLanzini	BLMMsh	28779.0	0.0	0.0	104.26
Western Sahara	YuriLanzini	BLMMsh	30393.1	560.04	0.0	110.11
Western Sahara	YuriLanzini	BLMMsh	29500.0	0.0	0.0	106.87
Western Sahara	YuriLanzini	BLMMsh	28376.0	0.0	0.0	102.8
Western Sahara	YuriLanzini	BLMMsh	27603.0	0.0	0.0	100.0
Western Sahara	YuriLanzini	BLPM2opt	29046.0	0.0	0.0	105.23
Western Sahara	YuriLanzini	BLPM2opt	29264.0	0.0	0.0	106.02
Western Sahara	YuriLanzini	BLPM2opt	27750.0	0.0	0.0	100.53
	YuriLanzini	BLPM2opt	27750.0	0.0	0.0	100.53
Western Sahara Western Sahara	YuriLanzini	BLPM2opt	28943.0	0.0	0.0	104.85
						105.23
Western Sahara	YuriLanzini	BLPM2opt	29046.0	0.0	0.0	
Western Sahara	YuriLanzini	BLPM2opt	28147.0	0.0	0.0	101.97
Western Sahara	YuriLanzini	BLPM2opt	27750.0	0.0	0.0	100.53
Western Sahara	YuriLanzini	BLPM2opt	29218.0	0.0	0.0	105.85
Western Sahara	YuriLanzini	BLPM2opt	28022.0	0.0	0.0	101.52
Western Sahara	YuriLanzini	BLPMnode-swap	40732.0	0.0	0.0	147.56
Western Sahara	YuriLanzini	BLPMnode-swap	33452.0	0.0	0.0	121.19
Western Sahara	YuriLanzini	BLPMnode-swap	37583.0	0.0	0.0	136.16
Western Sahara	YuriLanzini	BLPMnode-swap	36307.0	0.0	0.0	131.53
Western Sahara	YuriLanzini	BLPMnode-swap	33704.0	0.0	0.0	122.1
Western Sahara	YuriLanzini	BLPMnode-swap	36496.0	0.0	0.0	132.22
Western Sahara	YuriLanzini	BLPMnode-swap	34838.0	0.0	0.0	126.21
Western Sahara	YuriLanzini	BLPMnode-swap	37157.0	0.0	0.0	134.61
Western Sahara	YuriLanzini	BLPMnode-swap	43588.0	0.0	0.0	157.91
Western Sahara	YuriLanzini	BLPMnode-swap	33184.0	0.0	0.0	120.22
Western Sahara	YuriLanzini	BLPMsh	30216.0	0.0	0.0	109.47
Western Sahara	YuriLanzini	BLPMsh	28376.0	0.0	0.0	102.8
Western Sahara	YuriLanzini	BLPMsh	34460.0	0.0	0.0	124.84
Western Sahara	YuriLanzini	BLPMsh	29018.0	0.0	0.0	105.13
Western Sahara	YuriLanzini	BLPMsh	29647.0	0.0	0.0	107.4
Western Sahara	YuriLanzini	BLPMsh	29500.0	0.0	0.0	106.87
Western Sahara	YuriLanzini	BLPMsh	29556.0	0.0	0.0	107.08
Western Sahara	YuriLanzini	BLPMsh	28044.0	0.0	0.0	101.6
Western Sahara	YuriLanzini	BLPMsh	27603.0	0.0	0.0	100.0
Western Sahara	YuriLanzini	BLPMsh	35309.0	0.0	0.0	127.92

Canalman Verlaman MacMarger Misola Mis	Instância	autoria	algoritmo	q-medio	q-desvio	t-medio	% do ótimo
Zincholmon Vortlandell IMAMCROP 1980118 20071178 40.77 190727 Zincholmon Varillamentel IMAMCROP 198027 10.20 16.77 Zincholmon Varillamentel IMAMCROP 118727 102710 40.44 10.70 Zincholmon Varillamentel IMAMCROP 201544 24.1004.2 40.55 10.75 Zincholmon Varillamentel IMAMCROP 201544 24.1104.3 40.56 21.27 Zincholmon Varillamentel IMAMCROP 211724 1011540 40.57 10.48 Zincholmon Varillamentel IMAMCROP 1717241 1011758 30.0 10.68 Zincholmon Varillamentel IMAMCROPA 177241 1017288 30.0 10.61 Zincholmon Varillamentel IMAMCROPORTO 012732 2257083 87.2 06.31 Zincholmon Varillamentel IMAMCROPORTO 012732 2257083 87.2 07.1 50.5 Zincholmon <td< th=""><th>Instância: Z</th><th>imbabwe</th><th></th><th></th><th></th><th></th><th></th></td<>	Instância: Z	imbabwe					
Tombulone YoulfLamindon INAMCRopt 17907.4 19909.95 40.33 1877.7 Zimindone YunifLamindon ILMANDropt 17849.09 188217.07 41.47 183.01 Zimindone YunifLamindon ILMANDropt 181670.23 21.980-62 41.23 195.31 Zimindone YunifLamindon ILMANDropt 1972.04 18018.03 32.180-62 41.33 195.31 Zimindone YunifLamindon ILMANDropt 17729.61 18018.03 39.77 194.06 Zimindone YunifLamindon ILMANDropt 17779.61 18017.28 39.01 160.08 Zimindone YunifLamindon ILMANDropt-on-upp 367902.2 17906.28 37.07 39.11 Zimindone YunifLamindon ILMANDropt-on-upp 367902.2 17901.23 37.17 393.11 Zimindone YunifLamindon ILMANDropt-on-upp 36791.2 17910.29 87.1 467.3 Zimindone YunifLamindon ILMANDropt-on-upp 36791.2 17910.25 <td< th=""><th>Zimbabwe</th><th>YuriLanzini</th><th>BLMM2opt</th><th>181065.4</th><th>198436.47</th><th>40.25</th><th>189.91</th></td<>	Zimbabwe	YuriLanzini	BLMM2opt	181065.4	198436.47	40.25	189.91
Zimmbries Vortlaurini ILAMDupe 174809 188217 67 41.47 18701 Zimmbries Vartlaurini ILAMDupe 1818792 190731 68 40.94 19075 Zimmbries Vartlaurini ILAMDupe 1816902 2213064.2 41.53 191.51 Zimmbries Vartlaurini ILAMDupe 197240.1 180190.3 39.77 19840 Zimmbries Vartlaurini ILAMDupe 197240.1 1901288 39.00 196.48 Zimmbries Vartlaurini ILAMDuped property 18272.2 22370888 87.27 69.31 Zimbries Vartlaurini ILAMburolo-orug 68276.2 22370888 87.27 69.31 Zimbries Vartlaurini ILAMburolo-orug 58706.1 160792.3 87.17 69.31 Zimbries Vartlaurini ILAMburolo-orug 578762.2 17601.57 87.17 697.0 Zimbries Vartlaurini ILAMburolo-orug 57816.2 17601.2 87.1 69.2 Zimbri	Zimbabwe	YuriLanzini	BLMM2opt	183081.8	206751.78	40.77	192.02
Zambolove Vorillamenia BLAMDop 114409 188217.07 41.47 183.01 Zambolove Varillamenia BLAMDop 1818702 194781.88 40.94 190.75 Zambolove Valillamide BLAMDop 1818702 192104.21 41.23 193.51 Zambolove Valillamide BLAMDop 202846.4 241794.2 45.96 212.77 Zambolove Valillamide BLAMDop 17720.1 180172.6 38.57 185.89 Zambolove Valillamide BLAMDopolovorop 61702.2 19304.88 39.00 186.48 Zambolove Valillamide BLAMDopolovorop 61702.2 19304.88 37.07 99.1 Zambolove Valillamide BLAMDopolovorop 617972.2 19709.15 87.17 69.1 Zambolove Valillamide BLAMDopolovorop 617972.2 19700.15 87.17 697.6 Zambolove Valillamide BLAMDopolovorop 62233.8 19650.5 87.17 697.6 Zam	Zimbabwe	YuriLanzini	BLMM2opt	179027.4	192095.95	40.83	187.77
Zimboline VariLandrii BLMMCopt 189792 19475107 40.54 19.01 Zimboline VariLandrii BLMMCopt 190005 21300-02 41.53 19.51 Zimboline VariLandrii BLMMCopt 171249 17000-02 39.77 19748 Zimboline VariLandrii BLMMCopt 171249 17000-02 39.77 19148 Zimboline VariLandrii BLMMCopt 177961 190472-8 39.00 19648 Zimboline VariLandrii BLMMcoberrop 667702 19000-03 197.11 Zimboline VariLandrii BLMMcoberrop 59002 19200-04 87.17 39.31 Zimboline VariLandrii BLMMcoberrop 5797472 170015.73 87.17 67.0 Zimboline VariLandrii BLMMcoberrop 532712 17002.29 87.1 383.7 Zimboline VariLandrii BLMMcoberrop 53014.4 167790.3 87.0 501.14 Zimboline VariLandrii <td< td=""><td>Zimbabwe</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Zimbabwe						
Zimbalowe Varianziani BLAMZops 10409-5 21300-42 41.55 194.1 Zimbalowe Varianziani BLAMZops 2020-64 24.17-43 4.96 21.77 Zimbalowe Varianziani BLAMZops 1714-61 1811-66 39.77 194.8 Zimbalowe Varianziani BLAMZops 1774-61 1811-66 39.77 194.8 Zimbalowe Varianziani BLAMZops 1779-62 1790-88 9.00 194.1 Zimbalowe Varianziani BLAMZops 61577-22 2237-308 9.73 645.11 Zimbalowe Varianziani BLAMZopso-weg 5679-61 1607-22-3 67.17 676.11 Zimbalowe Varianziani BLAMZopso-weg 3679-61 1607-22-3 87.1 587.3 Zimbalowe Varianziani BLAMZopso-weg 35301-6 1790-22-3 87.1 587.5 Zimbalowe Varianziani BLAMZopso-weg 35301-6 1790-22-3 87.1 587.5 Zimbalowe <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>							
Zimbeline YuriLanzini BLMMOpt 202044 2421943 45.96 212.77 Zimbeline YuriLanzini BLMMOpt 1711269 1701042 39.77 17048 Zimbeline YuriLanzini BLMMOpt 177941 1881248 38.90 18.48 Zimbeline YuriLanzini BLMModelower 177941 1881248 39.00 18.48 Zimbeline YuriLanzini BLMModelower 690612 173034 87.77 37.41 Zimbeline YuriLanzini BLMModelower 386062 173034 87.77 37.41 Zimbeline YuriLanzini BLMModelower 387472 1910229 87.1 38.73 Zimbeline YuriLanzini BLMModelower 382144 1970229 87.1 38.73 Zimbeline YuriLanzini BLMModelower 382144 1970229 87.1 38.73 Zimbeline YuriLanzini BLMModelower 382144 1970229 87.1 38.73 Zimbeline YuriLanzini <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
Zimbolowe Variance HAMAZops 1712-99 1790-042 39.77 193.8 Zimbolowe Variance Variance 1772-041 1817-106 24.75 186.9 Zimbolowe Variance 1814-Mispe 1777-041 1804-72-08 29.03 190.4 Zimbolowe Variance 1814-Mispe 4706-22 1790-08 17.77 39.31 Zimbolowe Variance 1814-Mispes-eveng 5607-62 1790-19 67.17 39.41 Zimbolowe Variance 1814-Mispes-eveng 5607-62 1790-19 67.17 39.41 Zimbolowe Variance 1814-Mispes-eveng 53271-22 1716-29 87.1 565.73 Zimbolowe Variance 1814-Mispes-eveng 53218-38 1956-12 87.1 565.73 Zimbolowe Variance 1814-Mispes-eveng 53218-8 1909-92 87.1 565.73 Zimbolowe Variance 1814-Mispes-eveng 53218-8 1909-92 87.1 566.2 Zimbolowe							
Zimbalme Varilamini BLAMMORP 1777-861 19617-288 30.00 186.88 Zimbalmee Varilamini BLAMMORP 17779-61 19017-288 30.00 186.88 Zimbalmee Varilamini BLAMMORDOR 63772 23038-88 87.72 643.31 Zimbalmee Varilamini BLAMMORDOR 61727.2 23038-88 87.72 643.31 Zimbalmee Varilamini BLAMMORDOR 6909-61 16070-31 87.19 394.47 Zimbalmee Varilamini BLAMMORDOR 57877-2 1700-173 87.17 670 Zimbalmee Varilamini BLAMMORDOR 57877-2 1700-29 87.16 587.39 Zimbalmee Varilamini BLAMMORDOR 35001-64 10779-32 87.06 361.44 Zimbalmee Varilamini BLAMMORDOR 35001-64 1079-32 87.14 362.66 Zimbalmee Varilamini BLAMMORDOR 35001-64 1079-32 87.14 362.2 Zimbalmee Var							
Zimbalmane	Zimbabwe		BLMM2opt				
Zimbahnwe	Zimbabwe	YuriLanzini	BLMM2opt	177240.1	188174.06	38.57	185.89
Zimbalnew YuriLanzini BLMMunde-own 3496062 17233.34 87.17 376.31 Zimbalnew YuriLanzini BLMMunde-own 3496062 17233.34 87.17 376.31 Zimbalnew YuriLanzini BLMMunde-own 562761 16070.21 87.10 590.47 Zimbalnew YuriLanzini BLMMunde-own 522712 170013.73 87.17 607.0 Zimbalnew YuriLanzini BLMMunde-own 522712 17002.29 87.1 586.73 Zimbalnew YuriLanzini BLMMunde-own 522712 17002.29 87.10 587.53 Zimbalnew YuriLanzini BLMMunde-own 52278 1900.20 87.10 379.64 Zimbalnew YuriLanzini BLMMunde-own 533816 10009.02 87.10 390.64 Zimbalnew YuriLanzini BLMMunde-own 533886 17009.02 87.10 390.64 Zimbalnew YuriLanzini BLMMunde-own 533886 17009.02 87.10 390.64 Zimbalnew YuriLanzini BLMMunde-own 533886 17009.02 87.38 467.09 Zimbalnew YuriLanzini BLMMunde-own 533886 17009.02 87.38 467.00 Zimbalnew YuriLanzini BLMMunde-own 533886 17009.02 87.38 467.00 Zimbalnew YuriLanzini BLMMunde-own 53986 170.00 177.30 180.64 Zimbalnew YuriLanzini BLMMunde 53186.27 41908.12 87.4 858.45 Zimbalnew YuriLanzini BLMMunde 53186.27 41908.12 87.2 87.2 859.64 Zimbalnew YuriLanzini BLMMunde 50099.4 412942.88 87.30 431.31 Zimbalnew YuriLanzini BLMMunde 50099.4 412942.88 87.30 431.31 Zimbalnew YuriLanzini BLMMunde 50099.8 41188.25 87.72 538.97 Zimbalnew YuriLanzini BLMMunde 50099.8 41188.25 87.73 53.94 Zimbalnew YuriLanzini BLMMunde 50099.8 500.00 500.00 500.00 Zimbalnew YuriLanzini BLMMunde 50099.8 500.00 500.00 500.00 Zimbalnew YuriLanzini BLMMunde 50099.8 500.00 500.00 500.00 Z	Zimbabwe	YuriLanzini	BLMM2opt	177796.1	190472.88	39.03	186.48
Zimbahnew Varikanzini BiAMbonde-rough \$606002 172033.94 87.17 \$76.51 \$94.47 \$10.50 \$94.47 \$10.50 \$94.47 \$10.50 \$94.47 \$10.50 \$94.47 \$10.50 \$94.47 \$10.50 \$94.47 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50 \$10.50	Zimbabwe	YuriLanzini	BLMMnode-swap	563780.2	175968.88	87.07	591.31
Zimbahow Yurkanzini BLAMSnook-own 566796.1 166792.51 87.19 594.47 Zimbahow Yurkanzini BLAMSnook-own 574742 176013.73 87.17 607.0 Zimbahow Yurkanzini BLAMSnook-own 532712.2 17106.22 87.1 585.73 Zimbahow Yurkanzini BLAMSnook-own 532712.2 17106.22 87.10 597.40 Zimbahow Yurkanzini BLAMSnook-own 532816.4 10759.28 87.05 50.14 Zimbahow Yurkanzini BLAMSnook-own 533816.4 10759.28 87.05 50.14 Zimbahow Yurkanzini BLAMSnook-own 533816.4 10769.22 87.10 566.2 Zimbahow Yurkanzini BLAMSnook-own 533816.4 10769.22 87.10 566.2 Zimbahow Yurkanzini BLAMSnook-own 533816.4 10769.20 87.35 487.00 Zimbahow Yurkanzini BLAMSnook-own 533816.4 10769.20 87.35 487.00 Zimbahow Yurkanzini BLAMSnook-own 529816.4 41098.00 87.38 80.66 Zimbahow Yurkanzini BLAMSnook 82290.5 41098.20 87.35 487.00 Zimbahow Yurkanzini BLAMSnook 82290.5 41098.12 87.4 853.45 Zimbahow Yurkanzini BLAMSnook 82290.5 41098.12 87.4 853.45 Zimbahow Yurkanzini BLAMSnook 80637.2 41197.05 87.51 85.72 Zimbahow Yurkanzini BLAMSnook 80637.2 41197.05 87.51 85.72 Zimbahow Yurkanzini BLAMSnook 80637.2 41197.05 87.50 913.11 Zimbahow Yurkanzini BLAMSnook 80637.2 41197.05 87.70 913.11 Zimbahow Yurkanzini BLAMSnook 80637.2 41197.00 71.00 71.00 Zimbah	Zimbabwe	YuriLanzini	BLMMnode-swap	615273.2	228370.85	87.22	645.31
Zimbalbowe YuilLanzini BLAMbands-swap 3787472 176013-73 87.17 607.0 Zimbalbowe YuilLanzini BLAMbands-swap 3627172 171062-20 87.1 388.73 Zimbalbowe YuilLanzini BLAMbands-swap 3630164 167790-28 87.08 861.14 Zimbalbowe YuilLanzini BLAMbands-swap 35388.6 17089-92 87.16 399.64 Zimbalbowe YuilLanzini BLAMbands-swap 33588.6 17089-92 87.16 399.64 Zimbalbowe YuilLanzini BLAMbah 80767-9 41309-52 87.1 66.2 Zimbalbowe YuilLanzini BLAMbah 81767-9 41098-90 87.38 862.60 Zimbalbowe YuilLanzini BLAMbah 8196-37 41898-12 87.4 85.45 Zimbalbowe YuilLanzini BLAMbah 8190-32 87.2 87.28 80.04 Zimbalbowe YuilLanzini BLAMbah 809472 41174705 87.28 87.29 Zimbalbow	Zimbabwe	YuriLanzini	BLMMnode-swap	549669.2	172933.94	87.17	576.51
Zimbabwe	Zimbabwe	YuriLanzini	BLMMnode-swap	566796.1	166792.51	87.19	594,47
Zimbalawe YuriLanzini IILAMinada-swap 56(23.18) 19856,12 87,19 887,59 Zimbalawe YuriLanzini IILAMinada-swap 333016.4 167790.28 87,05 861,14 Zimbalawe YuriLanzini IILAMinada-swap 33938.8 166979.22 87,16 596,4 Zimbalawe YuriLanzini IILAMinada-swap 33938.8 166979.22 87,15 66.2 Zimbalawe YuriLanzini IILAMina 80765.9 41309.52 87,35 847.09 Zimbalawe YuriLanzini IILAMina 813184.2 398066.59 87,17 822.46 Zimbalawe YuriLanzini IILAMina 791970.5 42058.10 87,31 835.45 Zimbalawe YuriLanzini IILAMina 800797.2 4117495 87,31 845.72 Zimbalawe YuriLanzini IILAMina 800798.4 432942.85 87,39 913.31 Zimbalawe YuriLanzini IILAMina 82045.4 4100657.8 87,48 823.22	Zimbabwe	YuriLanzini	BLMMnode-swap	578747.2	176913.73	87.17	607.0
Zimbalnow YuriLanzini ILAMbandels-way \$35016.4 167750.28 \$7.05 \$61.14	Zimbabwe	YuriLanzini	BLMMnode-swap	532717.2	171062.29	87.1	558.73
Zimbalatiwe Varil.anzini BLMMosde-swap 533888.6 170809.02 87.16 589.64 Zimbalatiwe Yuril.anzini BLMMissde-swap 59838.8 166879.32 87.1 566.2 Zimbalatiwe Yuril.anzini BLMMiss 82205.5 410980.6 87.38 887.0 Zimbalatiwe Yuril.anzini BLMMiss 82205.5 410980.6 87.38 882.66 Zimbalatiwe Yuril.anzini BLMMiss 82184.2 39865.59 87.17 872.66 Zimbalatiwe Yuril.anzini BLMMiss 791970.5 42988.10 87.38 880.64 Zimbalatiwe Yuril.anzini BLMMiss 870978.4 43294.23 87.39 913.71 Zimbalatiwe Yuril.anzini BLMMiss 870984.4 43294.23 87.28 882.32 Zimbalatiwe Yuril.anzini BLMMiss 78609.8 411838.25 87.27 844.97 Zimbalatiwe Yuril.anzini BLPM2opt 19377.5 115606.3 80.0 223.32	Zimbabwe	YuriLanzini	BLMMnode-swap	560233.8	198566.12	87.19	587.59
Zimbalawe YuriLanzini BLMMondo-overal 333588.6 170809.92 87.16 559.44 Zimbalawe YuriLanzini BLMMondo-overal 39838.8 160878.32 87.1 566.2 Zimbalawe YuriLanzini BLMMoh 822305.5 410985.96 87.38 862.66 Zimbalawe YuriLanzini BLMMoh 81348-2 398058.59 87.17 872.46 Zimbalawe YuriLanzini BLMMoh 81348-2 398058.59 87.17 872.46 Zimbalawe YuriLanzini BLMMoh 791970.5 42988.12 87.38 880.64 Zimbalawe YuriLanzini BLMMoh 791970.5 4298.10 87.38 89.04 Zimbalawe YuriLanzini BLMMoh 870970.4 43294.83 87.39 913.31 Zimbalawe YuriLanzini BLMMoh 87090.8 41188.23 87.22 843.77 Zimbalawe YuriLanzini BLPMDopt 197373 117620.27 83.06 82.32 Zimbalawe Y	Zimbabwe	YuriLanzini	BLMMnode-swap	535016.4	167750.28	87.05	561.14
Zimbalawe YuriLanzini BLMMondo-away 539038.8 160879-32 87.1 566.2 Zimbalawe YuriLanzini BLMMoh 807657-9 41,069,52 87.35 867.00 Zimbalawe YuriLanzini BLMMoh 811845.2 398656.59 87.17 872.46 Zimbalawe YuriLanzini BLMMoh 811862.7 418988.12 87.4 855.45 Zimbalawe YuriLanzini BLMMoh 80164.72 41874.0 87.18 80.04 Zimbalawe YuriLanzini BLMMoh 807976.4 425980.19 87.31 816.72 Zimbalawe YuriLanzini BLMMoh 870796.4 425942.83 87.59 913.31 Zimbalawe YuriLanzini BLMMoh 78045.3 410967.0 87.28 85.32 Zimbalawe YuriLanzini BLMMoh 780690.8 411385.2 87.27 88.47 Zimbalawe YuriLanzini BLPM2cpt 153275.3 117620.27 53.00 133.44 Zimbalawe YuriLanz		YuriLanzini	BLMMnode-swap				
Zimbabwe Ywill.anzini BLMMsh 807657.0 415093.52 87.35 847.09 Zimbabwe Yurl.anzini BLMMsh 822305.5 41098.96 87.38 862.66 Zimbabwe Yurl.anzini BLMMsh 81564.2 308656.59 87.17 872.46 Zimbabwe Yurl.anzini BLMMsh 815624.7 41989.12 87.48 885.45 Zimbabwe Yurl.anzini BLMMsh 81524.7 41197.05 87.38 80.64 Zimbabwe Yurl.anzini BLMMsh 806347.2 411747.05 87.51 845.72 Zimbabwe Yurl.anzini BLMMsh 78944.3 41096.73 87.48 887.99 Zimbabwe Yurl.anzini BLMMsh 796098.8 41138.25 87.27 83.47 Zimbabwe Yurl.anzini BLPMcopt 17578.3 117620.27 83.96 183.44 Zimbabwe Yurl.anzini BLPMcopt 26032.0 180608.44 86.71 229.33 Zimbabwe Yurl.anzini			BLMMnode-swap				
Zimbabowe YuriLanzini BLMMah 822:05.5 41098-96 87.38 862.66 Zimbabowe YuriLanzini BLMMah 81348-2 398.66.59 87.17 872.46 Zimbabowe YuriLanzini BLMMah 81562-27 41898-12 87.4 853.64 Zimbabowe YuriLanzini BLMMah 701970.5 429883.19 87.38 830.64 Zimbabowe YuriLanzini BLMMah 701970.5 429883.19 87.38 830.64 Zimbabowe YuriLanzini BLMMah 87070.4 432942.25 87.30 913.11 Zimbabowe YuriLanzini BLMMah 87070.4 40292.69 87.28 882.32 Zimbabowe YuriLanzini BLMAda 79609.8 411388.25 87.27 849.97 Zimbabowe YuriLanzini BLPM2cpt 30371.5 21367.0 87.03 234.48 Zimbabowe YuriLanzini BLPM2cpt 26524.0 18068.4 86.71 29.33 Zimbabowe YuriLanzini							
Zimbabowe YuriLanzini BLMMah 831845.2 399656.59 87.17 872.46 Zimbabowe YuriLanzini BLMMah 815624.7 418988.12 87.4 885.45 Zimbabowe YuriLanzini BLMMah 806347.2 411747.05 87.31 850.64 Zimbabowe YuriLanzini BLMMah 806347.2 411747.05 87.31 845.72 Zimbabowe YuriLanzini BLMMah 800347.2 411747.05 87.39 913.31 Zimbabowe YuriLanzini BLMMah 790484.3 419962.53 87.28 852.32 Zimbabowe YuriLanzini BLMMah 790699.8 41138.25 87.27 884.07 Zimbabowe YuriLanzini BLPM20pt 30371.5 213627.05 87.03 234.48 Zimbabowe YuriLanzini BLPM20pt 175278.3 117602.7 53.36 183.44 Zimbabowe YuriLanzini BLPM20pt 216324.0 180605.4 86.71 2273.73 Zimbabowe Yuri							
Zimbabwe YuriLanzini BLMMala 815c24.7 41898.12 87.4 855.45 Zimbabwe YuriLanzini BLMMala 791970.5 429813.19 87.28 880.64 Zimbabwe YuriLanzini BLMMala 80047.2 41174.05 87.51 845.72 Zimbabwe YuriLanzini BLMMala 87098.4 41978.2 87.29 913.31 Zimbabwe YuriLanzini BLMMala 87098.4 410965.73 87.48 827.99 Zimbabwe YuriLanzini BLMMala 79609.8 41188.25 87.27 83.97 Zimbabwe YuriLanzini BLMAcapt 70609.8 41188.25 87.27 83.36 Zimbabwe YuriLanzini BLPMZopt 10527.83 117620.7 53.66 183.84 Zimbabwe YuriLanzini BLPMZopt 241923.0 163166.6 80.0 257.33 Zimbabwe YuriLanzini BLPMZopt 241127.8 149241.07 79.43 221.92 Zimbabwe YuriLanzini							
Zimbalawe YuriLanzini BLMMsh 791970.5 429583.19 87.38 830.64 Zimbalawe YuriLanzini BLMMsh 806347.2 411747.05 87.51 845.72 Zimbalawe YuriLanzini BLMMsh 870798.4 42942.85 87.39 91.31 Zimbalawe YuriLanzini BLMMsh 78944.3 410965.73 87.48 82.79 Zimbalawe YuriLanzini BLMMsh 789699.8 411388.25 87.27 834.07 Zimbalawe YuriLanzini BLPM2opt 30371.5 21367.05 87.03 324.48 Zimbalawe YuriLanzini BLPM2opt 175278.3 11760.27 33.96 183.84 Zimbalawe YuriLanzini BLPM2opt 26524.0 180605.44 86.71 279.33 Zimbalawe YuriLanzini BLPM2opt 221127.8 149241.07 79.43 221.92 Zimbalawe YuriLanzini BLPM2opt 21167.8 131767.02 40.06 231.73 Zimbalawe YuriL							
Zimbabowe YuriLanzini BLMMsh 80547.2 411747.05 87.51 845.72 Zimbabowe YuriLanzini BLMMsh 870798.4 432942.85 87.39 913.31 Zimbabowe YuriLanzini BLMMsh 789445.3 410965.73 87.48 827.99 Zimbabowe YuriLanzini BLMMsh 786445.8 409292.60 87.28 852.32 Zimbabowe YuriLanzini BLMMsh 796099.8 411388.25 87.27 84.97 Zimbabowe YuriLanzini BLPM2opt 175278.3 117620.27 53.96 183.84 Zimbabowe YuriLanzini BLPM2opt 26324.0 180605.44 86.71 279.33 Zimbabowe YuriLanzini BLPM2opt 241923.0 163168.6 80.0 223.73 Zimbabowe YuriLanzini BLPM2opt 221127.8 14924.07 79.43 231.02 Zimbabowe YuriLanzini BLPM2opt 231508.1 163182.15 73.0 124.62 Zimbabowe Yur	Zimbabwe	YuriLanzini	BLMMsh	815624.7	418988.12	87.4	855.45
Zimbalowe YuriLanzini BLMMsh 870798.4 432942.85 87.39 913.31 Zimbalowe YuriLanzini BLMMsh 788445.3 410965.73 87.48 827.09 Zimbalowe YuriLanzini BLMMsh 812645.8 402922.00 87.28 85.23 Zimbalowe YuriLanzini BLPM20pt 309371.5 213627.05 87.03 32448 Zimbalowe YuriLanzini BLPM20pt 175278.3 117620.27 53.96 183.84 Zimbalowe YuriLanzini BLPM20pt 266324.0 18006.04 86.71 279.33 Zimbalowe YuriLanzini BLPM20pt 241923.0 163168.6 80.0 253.73 Zimbalowe YuriLanzini BLPM20pt 22117.8 14924.07 79.43 231.92 Zimbalowe YuriLanzini BLPM20pt 231508.1 163188.6 60.31 20.42 Zimbalowe YuriLanzini BLPM20pt 231508.1 163182.1 73.6 242.81 Zimbalowe Yur	Zimbabwe	YuriLanzini	BLMMsh	791970.5	429583.19	87.38	830.64
Zimbabwe YuriLanzini BLMMsh 789445.3 410965.73 87.48 827.99 Zimbabwe YuriLanzini BLMMsh 812645.8 409292.69 87.28 852.32 Zimbabwe YuriLanzini BLMMsh 76609.8 411382.5 87.27 834.97 Zimbabwe YuriLanzini BLPMopt 175278.3 117620.7 53.06 188.84 Zimbabwe YuriLanzini BLPM20pt 266324.0 180065.44 86.71 279.33 Zimbabwe YuriLanzini BLPM20pt 241923.0 163108.6 80.0 253.73 Zimbabwe YuriLanzini BLPM20pt 22117.8 149241.07 79.43 231.92 Zimbabwe YuriLanzini BLPM20pt 220718.8 131767.02 54.06 212.62 Zimbabwe YuriLanzini BLPM20pt 231508.1 163182.15 73.6 242.81 Zimbabwe YuriLanzini BLPM20pt 21508.1 163182.15 73.6 242.81 Zimbabwe YuriLanzini </td <td>Zimbabwe</td> <td>YuriLanzini</td> <td>BLMMsh</td> <td>806347.2</td> <td>411747.05</td> <td>87.51</td> <td>845.72</td>	Zimbabwe	YuriLanzini	BLMMsh	806347.2	411747.05	87.51	845.72
Zimbabwe YuriLanzini BLMMah 812e45.8 409292.69 87.28 852.32 Zimbabwe YuriLanzini BLMMah 796099.8 411388.25 87.27 834.97 Zimbabwe YuriLanzini BLPM2opt 309371.5 213627.05 87.03 324.48 Zimbabwe YuriLanzini BLPM2opt 175278.3 117620.27 53.96 183.84 Zimbabwe YuriLanzini BLPM2opt 26324.0 180605.44 86.0 223.73 Zimbabwe YuriLanzini BLPM2opt 241933.0 163186.6 80.0 223.73 Zimbabwe YuriLanzini BLPM2opt 202718.8 131767.02 34.06 212.62 Zimbabwe YuriLanzini BLPM2opt 231508.1 163182.15 73.6 242.81 Zimbabwe YuriLanzini BLPM2opt 15192.6 72304.78 62.39 162.77 Zimbabwe YuriLanzini BLPM2opt 15047.1 126375.51 48.57 199.06 Zimbabwe YuriLanzi	Zimbabwe	YuriLanzini	BLMMsh	870798.4	432942.85	87.39	913.31
Zimbabwe YuriLanzini BLMMah 796099.8 411388.25 87.27 834.97 Zimbabwe YuriLanzini BLPM2opt 309371.5 213627.05 87.03 324.48 Zimbabwe YuriLanzini BLPM2opt 175278.3 117620.27 53.96 183.84 Zimbabwe YuriLanzini BLPM2opt 266324.0 180605.44 86.71 279.33 Zimbabwe YuriLanzini BLPM2opt 241923.0 163168.6 80.0 253.73 Zimbabwe YuriLanzini BLPM2opt 221127.8 149241.07 79.43 231.92 Zimbabwe YuriLanzini BLPM2opt 20718.8 131767.02 54.06 212.62 Zimbabwe YuriLanzini BLPM2opt 231508.1 163182.15 73.6 242.81 Zimbabwe YuriLanzini BLPM2opt 21508.1 163182.15 73.6 242.81 Zimbabwe YuriLanzini BLPM1ode-awap 286342.1 18084.19 35.22 300.32 Zimbabwe Y	Zimbabwe	YuriLanzini	BLMMsh	789445.3	410965.73	87.48	827.99
Zimbabwe YuriLanzini BLPM2opt 309371.5 213627.05 87.03 324.48 Zimbabwe YuriLanzini BLPM2opt 175278.3 117620.27 53.96 183.84 Zimbabwe YuriLanzini BLPM2opt 26324.0 180605.44 86.71 279.33 Zimbabwe YuriLanzini BLPM2opt 241923.0 163168.6 80.0 253.73 Zimbabwe YuriLanzini BLPM2opt 221127.8 149241.07 79.43 231.92 Zimbabwe YuriLanzini BLPM2opt 221127.8 131767.02 54.06 212.62 Zimbabwe YuriLanzini BLPM2opt 19109.6 8746c18 69.31 200.42 Zimbabwe YuriLanzini BLPM2opt 155192.6 72304.78 62.39 162.77 Zimbabwe YuriLanzini BLPM2opt 190647.1 126375.51 48.57 199.96 Zimbabwe YuriLanzini BLPM2ode-swap 337835.7 42414.51 87.06 357.31 Zimbabwe	Zimbabwe	YuriLanzini	BLMMsh	812645.8	409292.69	87.28	852.32
Zimbabwe YuriLanzini BLPM2opt 175278.3 117620.27 53.96 183.84 Zimbabwe YuriLanzini BLPM2opt 26324.0 180605.44 86.71 279.33 Zimbabwe YuriLanzini BLPM2opt 241923.0 163168.6 80.0 253.73 Zimbabwe YuriLanzini BLPM2opt 221127.8 149241.07 79.43 231.92 Zimbabwe YuriLanzini BLPM2opt 202718.8 131767.02 54.06 212.62 Zimbabwe YuriLanzini BLPM2opt 191096.6 87466.18 69.31 200.42 Zimbabwe YuriLanzini BLPM2opt 231508.1 163182.15 73.6 242.81 Zimbabwe YuriLanzini BLPM2opt 190647.1 126375.51 48.57 199.96 Zimbabwe YuriLanzini BLPMode-swap 286342.1 18084.19 35.22 300.32 Zimbabwe YuriLanzini BLPMnode-swap 331749 4929.83 63.34 337.45 Zimbabwe <t< td=""><td>Zimbabwe</td><td>YuriLanzini</td><td>BLMMsh</td><td>796099.8</td><td>411388.25</td><td>87.27</td><td>834.97</td></t<>	Zimbabwe	YuriLanzini	BLMMsh	796099.8	411388.25	87.27	834.97
Zimbabwe YuriLanzini BLPM2opt 266324.0 180605.44 86.71 279.33 Zimbabwe YuriLanzini BLPM2opt 241923.0 163168.6 80.0 253.73 Zimbabwe YuriLanzini BLPM2opt 221127.8 149241.07 79.43 231.92 Zimbabwe YuriLanzini BLPM2opt 22118.8 131767.02 54.06 212.62 Zimbabwe YuriLanzini BLPM2opt 23108.1 163182.15 73.6 242.81 Zimbabwe YuriLanzini BLPM2opt 215108.1 163182.15 73.6 242.81 Zimbabwe YuriLanzini BLPM2opt 155192.6 72304.78 62.39 162.77 Zimbabwe YuriLanzini BLPM2opt 190647.1 126375.51 48.57 199.96 Zimbabwe YuriLanzini BLPMnode-swap 357835.7 42414.51 87.06 375.31 Zimbabwe YuriLanzini BLPMnode-swap 334200.6 41610.95 63.91 354.92 Zimbabwe	Zimbabwe	YuriLanzini	BLPM2opt	309371.5	213627.05	87.03	324.48
Zimbabwe YuriLanzini BLPM2opt 241923.0 163168.6 80.0 253.73 Zimbabwe YuriLanzini BLPM2opt 221127.8 149241.07 79.43 231.92 Zimbabwe YuriLanzini BLPM2opt 20718.8 131767.02 54.06 212.62 Zimbabwe YuriLanzini BLPM2opt 191090.6 87466.18 69.31 200.42 Zimbabwe YuriLanzini BLPM2opt 231508.1 163182.15 73.6 242.81 Zimbabwe YuriLanzini BLPM2opt 15192.6 72304.78 62.39 162.77 Zimbabwe YuriLanzini BLPM2opt 15192.6 72304.78 62.39 162.77 Zimbabwe YuriLanzini BLPM2opt 286342.1 18084.19 35.22 300.32 Zimbabwe YuriLanzini BLPMnode-swap 337835.7 42414.51 87.06 357.94 Zimbabwe YuriLanzini BLPMnode-swap 33140.6 41610.95 63.91 354.92 Zimbabwe	Zimbabwe	YuriLanzini	BLPM2opt	175278.3	117620.27	53.96	183.84
Zimbabwe YuriLanzini BLPM2opt 221127.8 149241.07 79.43 231.92 Zimbabwe YuriLanzini BLPM2opt 202718.8 131767.02 54.06 212.62 Zimbabwe YuriLanzini BLPM2opt 191090.6 87466.18 69.31 200.42 Zimbabwe YuriLanzini BLPM2opt 231508.1 163182.15 73.6 242.81 Zimbabwe YuriLanzini BLPM2opt 155192.6 72304.78 62.39 162.77 Zimbabwe YuriLanzini BLPM2opt 190647.1 126375.51 48.57 199.96 Zimbabwe YuriLanzini BLPMnode-swap 286342.1 18084.19 35.22 300.32 Zimbabwe YuriLanzini BLPMnode-swap 357835.7 42414.51 87.08 375.31 Zimbabwe YuriLanzini BLPMnode-swap 331244.9 49293.83 63.34 337.94 Zimbabwe YuriLanzini BLPMnode-swap 338400.6 41610.95 63.91 354.92 Zimbabwe </td <td>Zimbabwe</td> <td>YuriLanzini</td> <td>BLPM2opt</td> <td>266324.0</td> <td>180605.44</td> <td>86.71</td> <td>279.33</td>	Zimbabwe	YuriLanzini	BLPM2opt	266324.0	180605.44	86.71	279.33
Zimbabwe YuriLanzini BLPM2opt 221127.8 149241.07 79.43 231.92 Zimbabwe YuriLanzini BLPM2opt 202718.8 131767.02 \$4.06 212.62 Zimbabwe YuriLanzini BLPM2opt 191090.6 87466.18 69.31 200.42 Zimbabwe YuriLanzini BLPM2opt 231508.1 163182.15 73.6 242.81 Zimbabwe YuriLanzini BLPM2opt 195647.1 126375.51 48.57 199.96 Zimbabwe YuriLanzini BLPM2opt 190647.1 126375.51 48.57 199.96 Zimbabwe YuriLanzini BLPMnode-swap 286342.1 18084.19 35.22 300.32 Zimbabwe YuriLanzini BLPMnode-swap 357835.7 42414.51 87.08 375.94 Zimbabwe YuriLanzini BLPMnode-swap 321744.9 49293.83 63.34 337.45 Zimbabwe YuriLanzini BLPMnode-swap 338400.6 41610.95 63.91 354.92 Zimbabwe<	Zimbabwe	YuriLanzini	BLPM2opt	241923.0	163168.6	80.0	253.73
Zimbabwe YuriLanzini BLPM2opt 202718.8 131767.02 54.06 212.62 Zimbabwe YuriLanzini BLPM2opt 191090.6 87466.18 69.31 200.42 Zimbabwe YuriLanzini BLPM2opt 231508.1 163182.15 73.6 242.81 Zimbabwe YuriLanzini BLPM2opt 155192.6 72304.78 62.39 162.77 Zimbabwe YuriLanzini BLPM2opt 190647.1 126375.51 48.57 199.96 Zimbabwe YuriLanzini BLPMnode-swap 286342.1 18084.19 35.22 300.32 Zimbabwe YuriLanzini BLPMnode-swap 357835.7 42414.51 87.08 375.31 Zimbabwe YuriLanzini BLPMnode-swap 321744.9 49293.83 63.34 337.45 Zimbabwe YuriLanzini BLPMnode-swap 338400.6 41610.95 63.91 354.92 Zimbabwe YuriLanzini BLPMnode-swap 345299.2 49405.22 80.17 362.16 Zimbab		YuriLanzini					
Zimbabwe YuriLanzini BLPM2opt 191090.6 87466.18 69.31 200.42 Zimbabwe YuriLanzini BLPM2opt 231508.1 163182.15 73.6 242.81 Zimbabwe YuriLanzini BLPM2opt 155192.6 72304.78 62.39 162.77 Zimbabwe YuriLanzini BLPM2opt 190647.1 126375.51 48.57 199.96 Zimbabwe YuriLanzini BLPMnode-swap 286342.1 18084.19 35.22 300.32 Zimbabwe YuriLanzini BLPMnode-swap 357835.7 42414.51 87.08 375.31 Zimbabwe YuriLanzini BLPMnode-swap 341280.7 53931.78 87.06 337.94 Zimbabwe YuriLanzini BLPMnode-swap 321744.9 49293.83 63.34 337.45 Zimbabwe YuriLanzini BLPMnode-swap 338400.6 41610.95 63.91 354.92 Zimbabwe YuriLanzini BLPMnode-swap 32088.6 48652.41 66.05 335.72 Zim							
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Zimbabwe YuriLanzini BLPM2opt 155192.6 72304.78 62.39 162.77 Zimbabwe YuriLanzini BLPM2opt 190647.1 126375.51 48.57 199.96 Zimbabwe YuriLanzini BLPMnode-swap 286342.1 18084.19 35.22 300.32 Zimbabwe YuriLanzini BLPMnode-swap 357835.7 42414.51 87.08 375.31 Zimbabwe YuriLanzini BLPMnode-swap 341280.7 53931.78 87.06 357.94 Zimbabwe YuriLanzini BLPMnode-swap 321744.9 49293.83 63.34 337.45 Zimbabwe YuriLanzini BLPMnode-swap 338400.6 41610.95 63.91 354.92 Zimbabwe YuriLanzini BLPMnode-swap 34529.2 49405.22 80.17 362.16 Zimbabwe YuriLanzini BLPMnode-swap 367347.2 73986.76 61.83 385.28 Zimbabwe YuriLanzini BLPMnode-swap 318556.3 41323.65 67.39 334.11							
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Zimbabwe YuriLanzini BLPMnode-swap 341280.7 53931.78 87.06 357.94 Zimbabwe YuriLanzini BLPMnode-swap 321744.9 49293.83 63.34 337.45 Zimbabwe YuriLanzini BLPMnode-swap 338400.6 41610.95 63.91 354.92 Zimbabwe YuriLanzini BLPMnode-swap 345299.2 49405.22 80.17 362.16 Zimbabwe YuriLanzini BLPMnode-swap 32088.6 48652.41 66.05 335.72 Zimbabwe YuriLanzini BLPMnode-swap 367347.2 73986.76 61.83 385.28 Zimbabwe YuriLanzini BLPMnode-swap 293843.6 43274.32 61.85 308.19 Zimbabwe YuriLanzini BLPMnode-swap 318556.3 41323.65 67.39 334.11 Zimbabwe YuriLanzini BLPMsh 265404.0 119223.91 87.04 278.36 Zimbabwe YuriLanzini BLPMsh 379264.1 161506.15 87.02 397.78	Zimbabwe	YuriLanzini	BLPMnode-swap	286342.1	18084.19	35.22	300.32
Zimbabwe YuriLanzini BLPMnode-swap 321744.9 49293.83 63.34 337.45 Zimbabwe YuriLanzini BLPMnode-swap 338400.6 41610.95 63.91 354.92 Zimbabwe YuriLanzini BLPMnode-swap 345299.2 49405.22 80.17 362.16 Zimbabwe YuriLanzini BLPMnode-swap 320088.6 48652.41 66.05 335.72 Zimbabwe YuriLanzini BLPMnode-swap 367347.2 73986.76 61.83 385.28 Zimbabwe YuriLanzini BLPMnode-swap 293843.6 43274.32 61.85 308.19 Zimbabwe YuriLanzini BLPMnode-swap 318556.3 41323.65 67.39 334.11 Zimbabwe YuriLanzini BLPMsh 265404.0 119223.91 87.04 278.36 Zimbabwe YuriLanzini BLPMsh 362861.3 172378.98 87.1 380.58 Zimbabwe YuriLanzini BLPMsh 300465.5 116096.04 87.02 397.78 Zi	Zimbabwe	YuriLanzini	BLPMnode-swap	357835.7	42414.51	87.08	375.31
Zimbabwe YuriLanzini BLPMnode-swap 338400.6 41610.95 63.91 354.92 Zimbabwe YuriLanzini BLPMnode-swap 345299.2 49405.22 80.17 362.16 Zimbabwe YuriLanzini BLPMnode-swap 320088.6 48652.41 66.05 335.72 Zimbabwe YuriLanzini BLPMnode-swap 367347.2 73986.76 61.83 385.28 Zimbabwe YuriLanzini BLPMnode-swap 293843.6 43274.32 61.85 308.19 Zimbabwe YuriLanzini BLPMnode-swap 318556.3 41323.65 67.39 334.11 Zimbabwe YuriLanzini BLPMsh 265404.0 119223.91 87.04 278.36 Zimbabwe YuriLanzini BLPMsh 362861.3 172378.98 87.1 380.58 Zimbabwe YuriLanzini BLPMsh 379264.1 161506.15 87.02 397.78 Zimbabwe YuriLanzini BLPMsh 405995.5 216662.21 87.01 425.82 Zimbabwe	Zimbabwe	YuriLanzini	BLPMnode-swap	341280.7	53931.78	87.06	357.94
Zimbabwe YuriLanzini BLPMnode-swap 345299.2 49405.22 80.17 362.16 Zimbabwe YuriLanzini BLPMnode-swap 320088.6 48652.41 66.05 335.72 Zimbabwe YuriLanzini BLPMnode-swap 367347.2 73986.76 61.83 385.28 Zimbabwe YuriLanzini BLPMnode-swap 293843.6 43274.32 61.85 308.19 Zimbabwe YuriLanzini BLPMnode-swap 318556.3 41323.65 67.39 334.11 Zimbabwe YuriLanzini BLPMsh 265404.0 119223.91 87.04 278.36 Zimbabwe YuriLanzini BLPMsh 362861.3 172378.98 87.1 380.58 Zimbabwe YuriLanzini BLPMsh 379264.1 161506.15 87.02 397.78 Zimbabwe YuriLanzini BLPMsh 300465.5 116096.04 87.07 315.14 Zimbabwe YuriLanzini BLPMsh 356477.4 170770.56 87.01 373.88 Zimbabwe	Zimbabwe	YuriLanzini	BLPMnode-swap	321744.9	49293.83	63.34	337.45
Zimbabwe YuriLanzini BLPMnode-swap 320088.6 48652.41 66.05 335.72 Zimbabwe YuriLanzini BLPMnode-swap 367347.2 73986.76 61.83 385.28 Zimbabwe YuriLanzini BLPMnode-swap 293843.6 43274.32 61.85 308.19 Zimbabwe YuriLanzini BLPMnode-swap 318556.3 41323.65 67.39 334.11 Zimbabwe YuriLanzini BLPMsh 265404.0 119223.91 87.04 278.36 Zimbabwe YuriLanzini BLPMsh 362861.3 172378.98 87.1 380.58 Zimbabwe YuriLanzini BLPMsh 379264.1 161506.15 87.02 397.78 Zimbabwe YuriLanzini BLPMsh 300465.5 116096.04 87.07 315.14 Zimbabwe YuriLanzini BLPMsh 356477.4 170770.56 87.01 373.88 Zimbabwe YuriLanzini BLPMsh 334109.9 144593.78 87.05 350.42 Zimbabwe	Zimbabwe	YuriLanzini	BLPMnode-swap	338400.6	41610.95	63.91	354.92
Zimbabwe YuriLanzini BLPMnode-swap 367347.2 73986.76 61.83 385.28 Zimbabwe YuriLanzini BLPMnode-swap 293843.6 43274.32 61.85 308.19 Zimbabwe YuriLanzini BLPMnode-swap 318556.3 41323.65 67.39 334.11 Zimbabwe YuriLanzini BLPMsh 265404.0 119223.91 87.04 278.36 Zimbabwe YuriLanzini BLPMsh 362861.3 172378.98 87.1 380.58 Zimbabwe YuriLanzini BLPMsh 379264.1 161506.15 87.02 397.78 Zimbabwe YuriLanzini BLPMsh 300465.5 116096.04 87.07 315.14 Zimbabwe YuriLanzini BLPMsh 356477.4 170770.56 87.01 373.88 Zimbabwe YuriLanzini BLPMsh 334109.9 144593.78 87.05 350.42 Zimbabwe YuriLanzini BLPMsh 301178.7 187837.04 87.04 315.88 Zimbabwe	Zimbabwe	YuriLanzini	BLPMnode-swap	345299.2	49405.22	80.17	362.16
Zimbabwe YuriLanzini BLPMnode-swap 367347.2 73986.76 61.83 385.28 Zimbabwe YuriLanzini BLPMnode-swap 293843.6 43274.32 61.85 308.19 Zimbabwe YuriLanzini BLPMnode-swap 318556.3 41323.65 67.39 334.11 Zimbabwe YuriLanzini BLPMsh 265404.0 119223.91 87.04 278.36 Zimbabwe YuriLanzini BLPMsh 362861.3 172378.98 87.1 380.58 Zimbabwe YuriLanzini BLPMsh 379264.1 161506.15 87.02 397.78 Zimbabwe YuriLanzini BLPMsh 300465.5 116096.04 87.07 315.14 Zimbabwe YuriLanzini BLPMsh 356477.4 170770.56 87.01 373.88 Zimbabwe YuriLanzini BLPMsh 334109.9 144593.78 87.05 350.42 Zimbabwe YuriLanzini BLPMsh 301178.7 187837.04 87.04 315.88 Zimbabwe	Zimbabwe	YuriLanzini	BLPMnode-swap	320088.6	48652.41	66.05	335.72
Zimbabwe YuriLanzini BLPMnode-swap 293843.6 43274.32 61.85 308.19 Zimbabwe YuriLanzini BLPMnode-swap 318556.3 41323.65 67.39 334.11 Zimbabwe YuriLanzini BLPMsh 265404.0 119223.91 87.04 278.36 Zimbabwe YuriLanzini BLPMsh 362861.3 172378.98 87.1 380.58 Zimbabwe YuriLanzini BLPMsh 379264.1 161506.15 87.02 397.78 Zimbabwe YuriLanzini BLPMsh 300465.5 116096.04 87.07 315.14 Zimbabwe YuriLanzini BLPMsh 405995.5 216662.21 87.01 425.82 Zimbabwe YuriLanzini BLPMsh 334109.9 144593.78 87.05 350.42 Zimbabwe YuriLanzini BLPMsh 301178.7 187837.04 87.04 315.88 Zimbabwe YuriLanzini BLPMsh 268437.6 100824.47 87.07 281.54							
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Zimbabwe YuriLanzini BLPMsh 334109.9 144593.78 87.05 350.42 Zimbabwe YuriLanzini BLPMsh 301178.7 187837.04 87.04 315.88 Zimbabwe YuriLanzini BLPMsh 268437.6 100824.47 87.07 281.54	Zimbabwe	YuriLanzini	BLPMsh	405995.5	216662.21	87.01	425.82
Zimbabwe YuriLanzini BLPMsh 301178.7 187837.04 87.04 315.88 Zimbabwe YuriLanzini BLPMsh 268437.6 100824.47 87.07 281.54	Zimbabwe	YuriLanzini	BLPMsh	356477.4	170770.56	87.01	373.88
Zimbabwe YuriLanzini BLPMsh 268437.6 100824.47 87.07 281.54	Zimbabwe	YuriLanzini	BLPMsh	334109.9	144593.78	87.05	350.42
	Zimbabwe	YuriLanzini	BLPMsh	301178.7	187837.04	87.04	315.88
	Zimbabwe	YuriLanzini	BLPMsh	268437.6	100824.47	87.07	281.54
Zimbabwe YuriLanzini BLPMsh 385441.6 195710.26 86.99 404.26	Zimbabwe	YuriLanzini	BLPMsh	385441.6	195710.26	86.99	404.26