Homework 5 : JaBeJa K-way Graph Partitioning

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December 8, 2018

1 Short explanation of the program

The program has been implemented using Java and the skeleton available online. -simAnnhMode is a parameter that changes the Simulated Annhealing algorithm (LIN, the one described in the paper, is the default. Otherwise EXP and ALT_EXP are supported). Changing LOW_BOUND will change the lower bound of the simulated annhealing.

- Standard settings: linear decay of 0.003, T init at 2

- Standard settings with restart: linear decay of 0.01 with restart at 400. T init at 2

- Exp settings: exponential decay of 0.01, T init at 1

- Exp settings 2: exponential decay of 0.01, T init at 1, restart at 400

- Alternative exponential: exponential decay of 0.1, T init at 1, restart at 400

- Linear: linear formula, as described in the paper

- Exponential: $e^{\frac{p_{deg} - n_{deg}}{T}}$

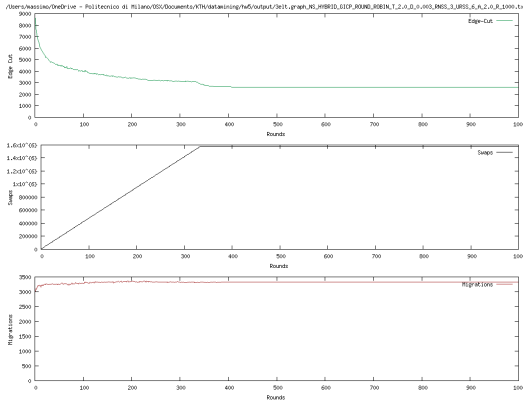- Alternative exponential: $e^{\frac{\frac{1}{p_{deg}} - \frac{1}{n_{deg}}}{T}}$

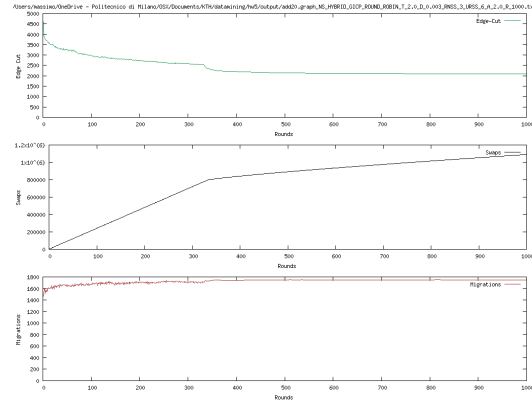Figure 1: 3elt graph, standard settings
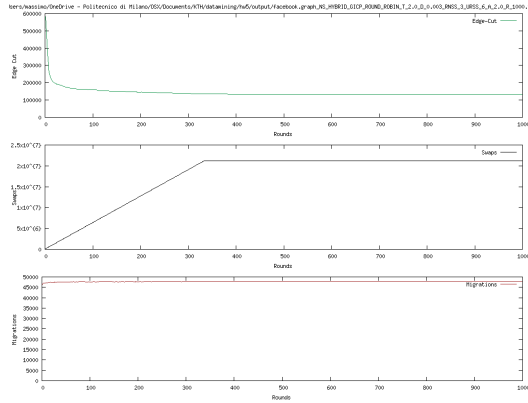

Figure 2: add20 graph, standard settings

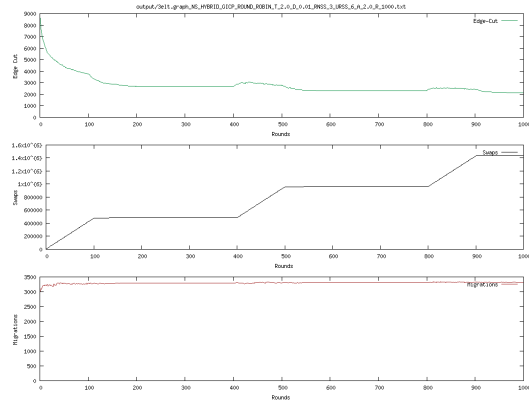Figure 3: facebook graph, standard settings

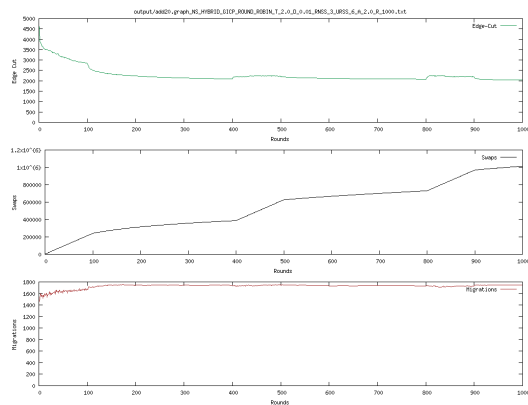Figure 4: 3elt graph, standard setting with restart

Figure 5: add20 graph, standard settings with restart
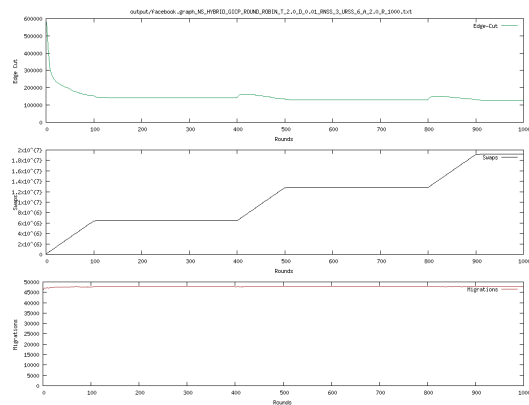

Figure 6: facebook graph, standard settings with restart
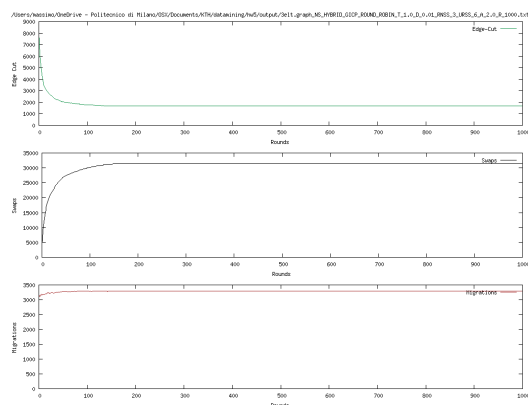

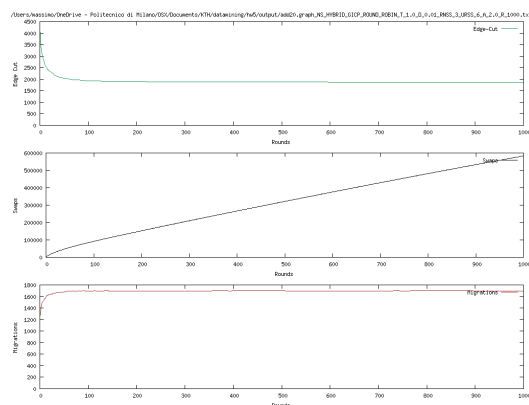Figure 7: 3elt graph, exponential setting
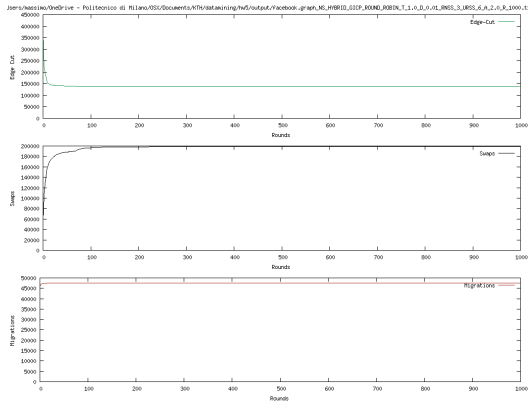

Figure 8: add20 graph, exponential setting

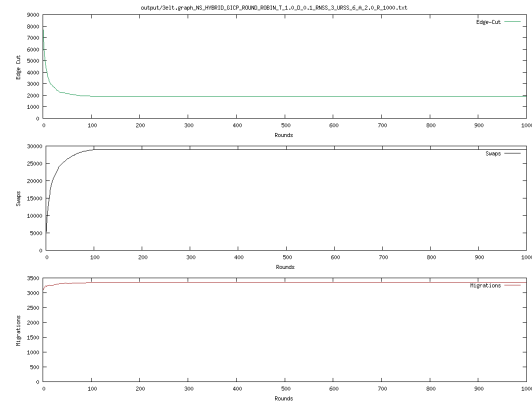Figure 9: Facebook graph, exponential setting

Figure 10: 3elt graph, exponential setting 2
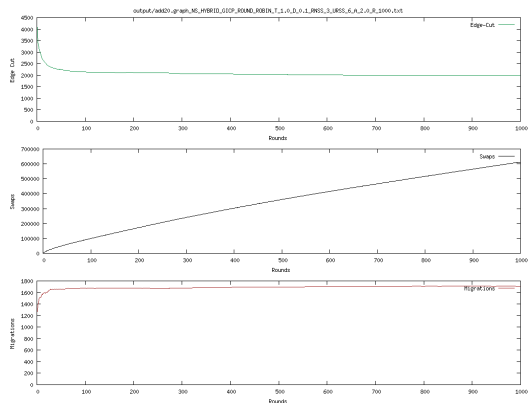

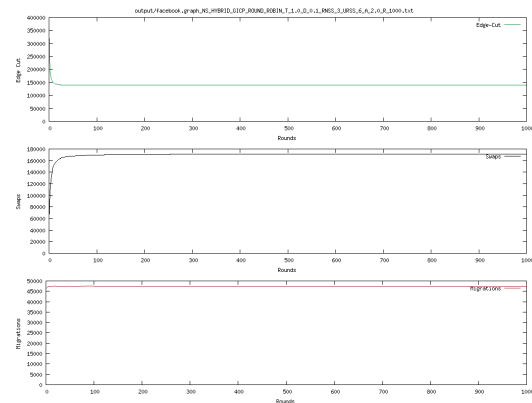Figure 11: add20 graph, exponential setting 2

Figure 12: Facebook graph, exponential setting 2
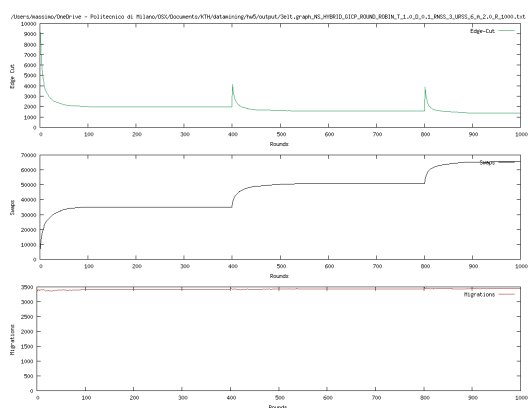

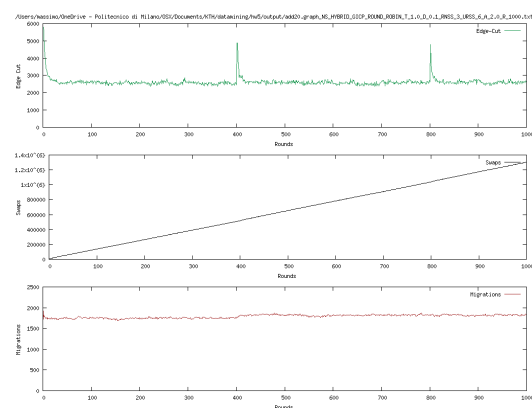Figure 13: 3elt graph, alternative exponential setting

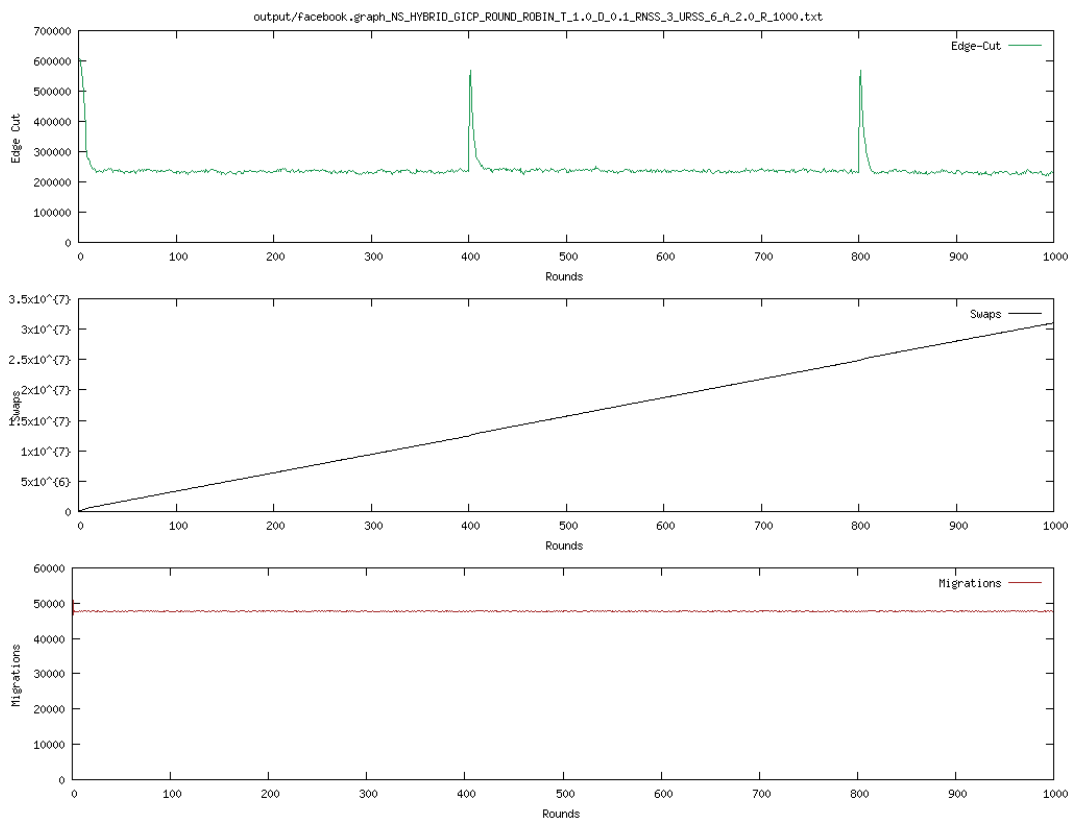Figure 14: add20 graph, alternative exponential setting

Figure 15: Facebook graph, alternative exponential setting