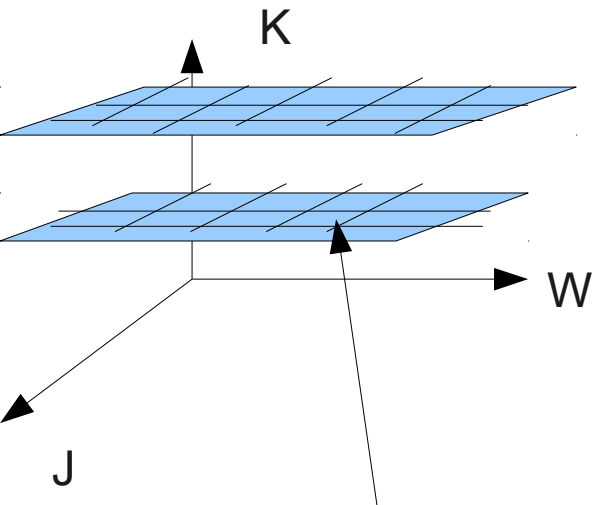
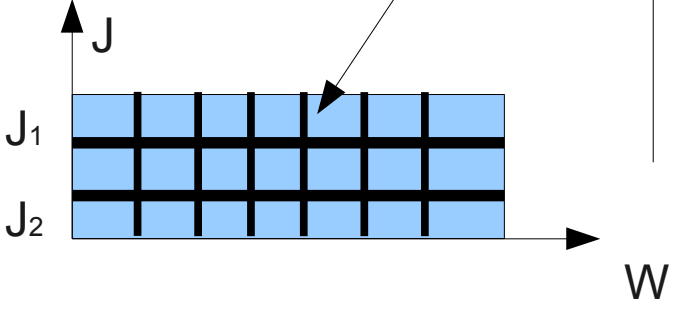
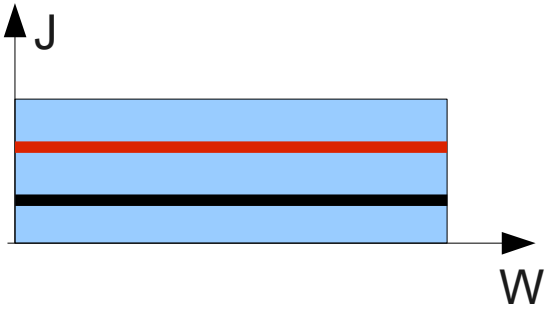
HDP ME Search



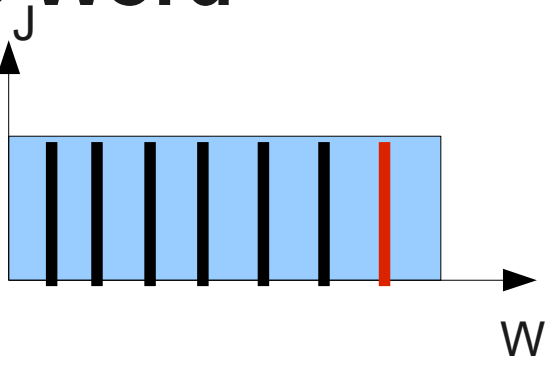
Decompose Dish
(hdp_s_decompclass)



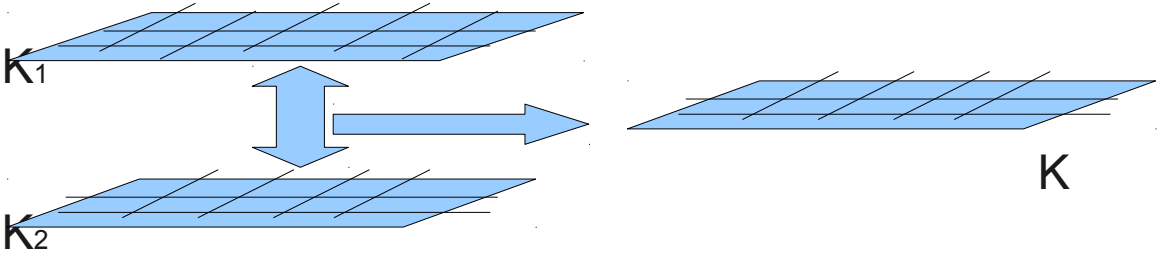
A) Decompose Restaurant
(hdp_s_decompres)



B) Decompose Word
(hdp_s_decompword)

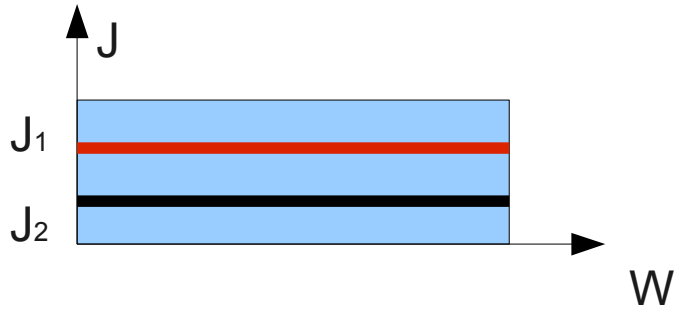


C) Merge Dish
(hdp_s_mergeclass)



A) Decompose Restaurant

(hdp_s_decompres)



0) Given other restaurants fixed, Reconfigure one restaurant J_1

1) Remove previous configuration of J_1
(hdp_s_deleteres)

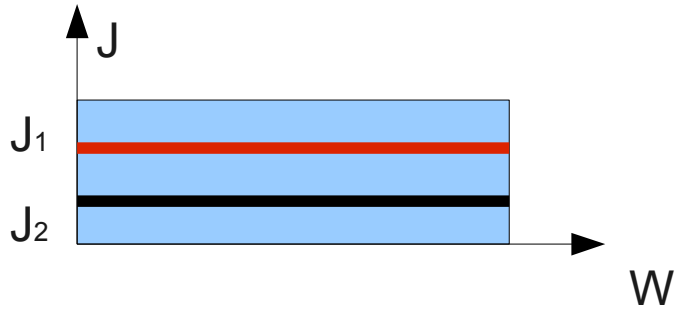
2) Gibbs Sampling t_{ji} and k_{jt}
(hdp_s_randres)

3) Local-Merge search until convergence
(hdp_s_lmres)

4) Accept & Reject

A) Decompose Restaurant

(hdp_s_decompres)



3) Local-Merge search until convergence
(hdp_s_lmres)

Iterate until convergence:

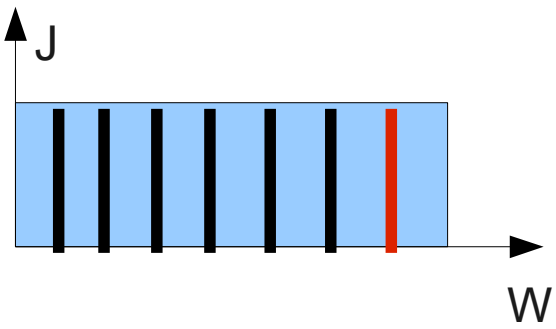
3.1) Local Search t_{ji}: Search the best t_{ji} for one customer while fixing others
(hdp_s_localdatatt)

3.2) Local Search k_{jt}: Search the best k_{jt} for one table while fixing others
(hdp_s_localtablecc)

3.3) Merge Table: Search the best table to merge and the best class for them
(hdp_s_mergetable)

B) Decompose Word

(hdp_s_decomword)



0) Given other words fixed, Reconfigure one word W_1

1) Remove previous configuration of W_1
(hdp_s_deleteword)

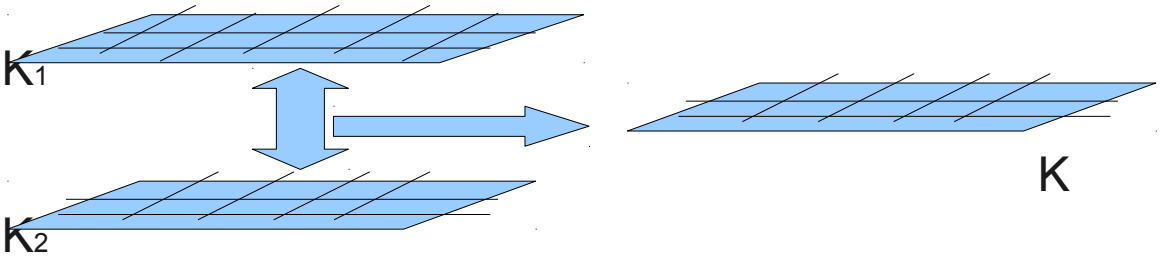
2) Gibbs Sampling t_{ji}
(hdp_s_randword)

3) Local-Merge search until convergence
(hdp_s_lmres)

4) Accept & Reject

C) Merge Dish

(hdp_s_mergeclass)



0) Find the best dish for dish K_1 to merge

1) For all other dishes:

Propose to merge it with K_1 ,
merging tables in the same restaurant
(hdp_s_mergetinside)

2) Accept & Reject