

Usage:

The main program is **spfp\_ds.hpp** and **spfp.cpp**. In the utils folder, I have written a python script to visualize the results - **utils/plot.py**

**You can visualize the results by calling "python3 utils/plot.py output/xerox\_0.3.dat".**

Run command '**sh compile.sh**' to compile the program.

I have struggled to get in-bound solution. I have tried to debug hours and hours to a point I can no longer afford more time to be put in this. I think I have all components implemented in the code, but I am unsure which part goes wrong.

There is a potential performance improvement as currently the cost are recomputed every time the configuration is updated.

I have only successfully obtained three benchmark solutions, since there are random seeds embedded in the program, even these three successful runs involve some luck: 1, hp, and xerox. All others are unable to find in-bound solution within a reasonable time

**1\_alpha0.6.dat output:**

0.925314

1000

720000

600 1200

**6 -> Runtime (s)**

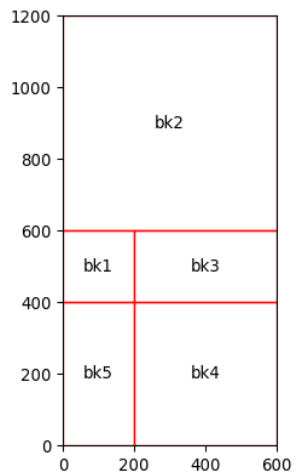
bk1 0 400 200 600

bk2 0 600 600 1200

bk3 200 400 600 600

bk4 200 0 600 400

bk5 0 0 200 400



### xerox\_alpha0.3.dat output:

-12.1342

602353

2.0752e+07

5201 3990

152 -> Runtime (s)

BLKB 840 1939 2135 2555

BLKD 2380 1316 2870 2611

BLKLL 2569 2611 5103 3906

BLKLR 0 2695 2569 3990

BLKP 0 1939 840 2695

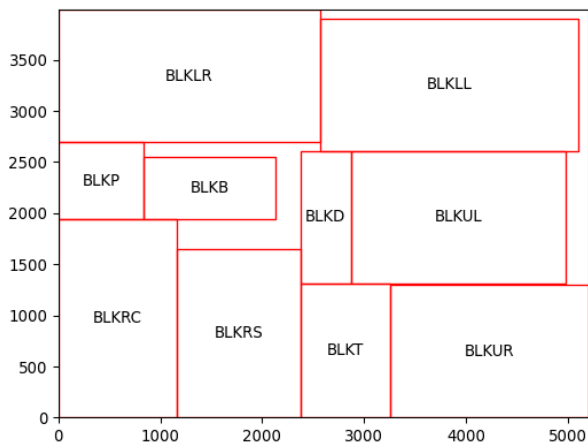
BLKRC 0 0 1162 1939

BLKRS 1162 0 2380 1652

BLKT 2380 0 3262 1316

BLKUL 2870 1316 4984 2611

BLKUR 3262 0 5201 1295



### hp\_alpha0.2.dat output:

0.587229

224511

9.50757e+06

3752 2534

162 -> Runtime (s)

clkc 2016 0 3052 462

clkd 3052 0 3752 378

cmp1 462 1008 672 1988

cmp2 252 1008 462 1988

cmp3 0 252 980 462

cntd 252 462 3556 1008

cntu 252 1988 3556 2534

npd 0 0 2016 252

nps 672 1470 3752 1932

ppd 0 462 252 2478

pps 672 1008 3752 1470

