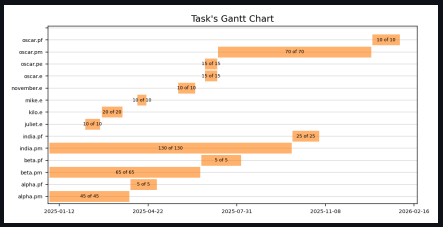
Yumbo. Scheduling, Planning and Resource Allocation

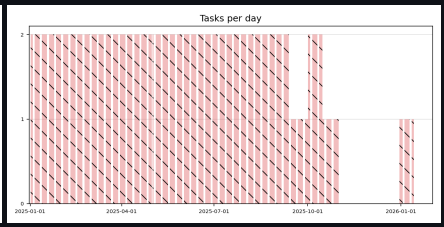
Zbigniew Romanowski, Paweł Koczyk

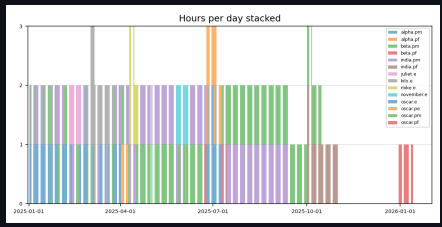
Source code, documentation and sample Excel input files can be found on Yumbo's GitHub repository.

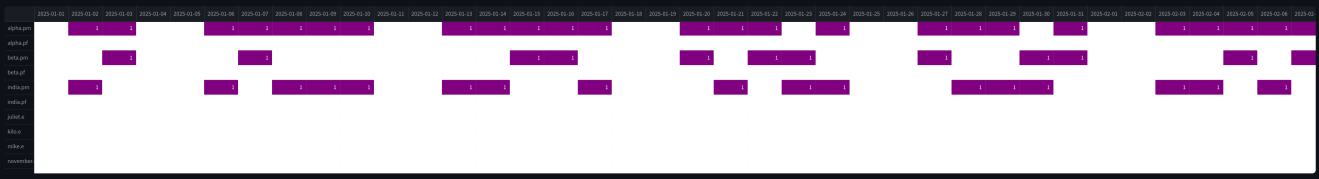
05 January 2025, 20:45:56 PM

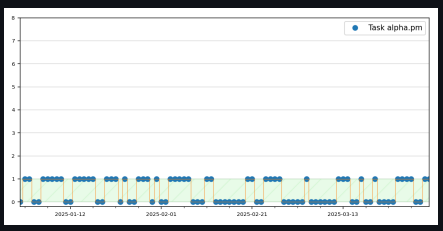
PM.Daniel the 1st unit

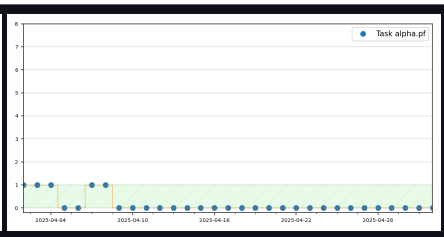


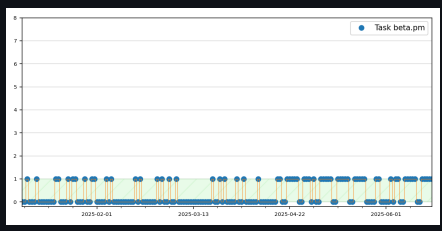


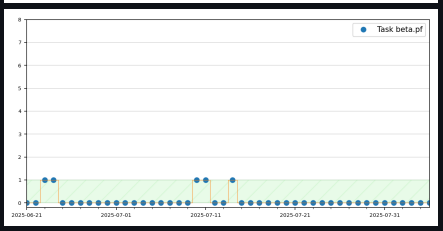


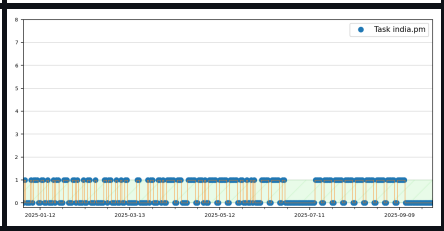


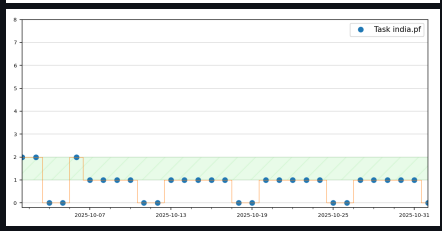


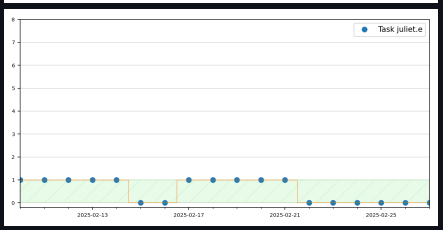


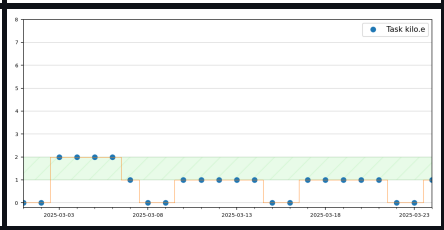


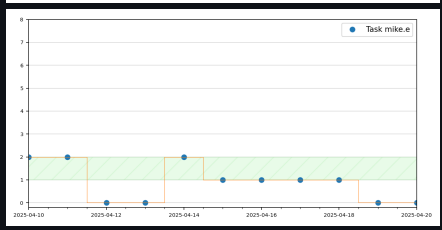


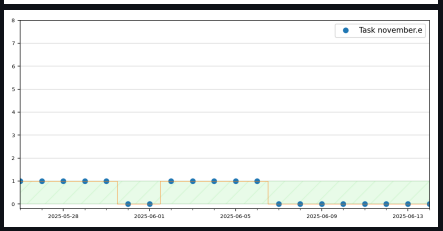


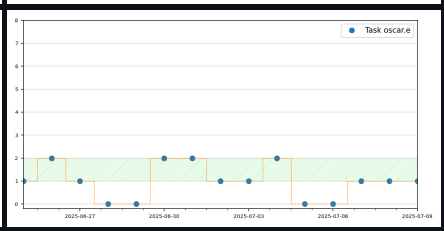


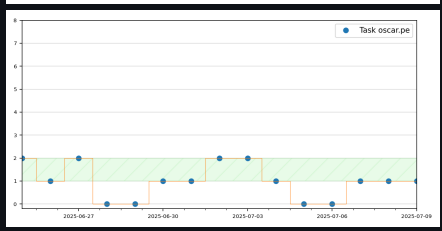


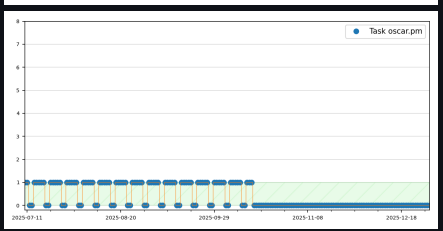


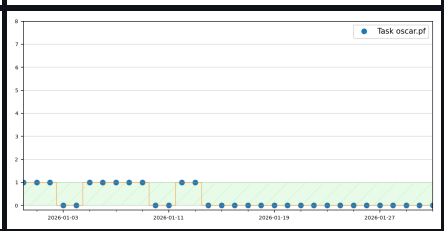












Solver output at 05 January 2025, 20:39:28 PM

```
HiGHS 1.7.1:   tech:outlev = 1
Running HiGHS 1.7.1 (git hash: dcf3813): Copyright (c) 2024 HiGHS under MIT licence terms
Coefficient ranges:
  Matrix  [1e+00, 8e+00]
  Cost    [1e+00, 1e+00]
  Bound   [1e+00, 2e+00]
  RHS     [1e+00, 1e+02]
Presolving model
1356 rows, 1241 cols, 3540 nonzeros  0s
1202 rows, 654 cols, 1186 nonzeros  0s
1168 rows, 654 cols, 1142 nonzeros  0s

Solving MIP model with:
   168 rows
   654 cols (622 binary, 32 integer, 0 implied int., 0 continuous)
   1142 nonzeros

        Nodes      |    B&B Tree     |              Objective Bounds              |  Dynamic Constraints |       Work
     Proc. InQueue |  Leaves   Expl. | BestBound       BestSol              Gap |   Cuts   InLp Confl. |  LpIters     Time

         0       0         0   0.00%   132.8722563     inf                  inf        0       0       0        0    0.0s
 T       0       0         0   0.00%   132.8722563    1538.611424        91.36%        0       0       0      210    0.0s

Solving report
  Status            Optimal
  Primal bound      1538.61142437
  Dual bound        1538.61142437
  Gap               0% (tolerance: 0.01%)
  Solution status   feasible
                    1538.61142437 (objective)
                    0 (bound viol.)
                    0 (int. viol.)
                    0 (row viol.)
  Timing            0.01 (total)
                    0.01 (presolve)
                    0.00 (postsolve)
  Nodes             1
  LP iterations     210 (total)
                    0 (strong br.)
                    0 (separation)
                    0 (heuristics)
HiGHS 1.7.1: optimal solution; objective 1538.611424
210 simplex iterations
1 branching nodes
```

Load a Excel data file

Excel file required in format 'xlsx'

Drag and drop file here
Limit 200MB per file
Browse files

10-PM.Daniel.xlsx
41.3KB

See the Yumbo GitHub repository for sample Excel input files.

Show skiped items in Excel input file?

Today: 2024-12-30

Python date format: %Y-%m-%d

Hours per day: 8

Customise report

Number of columns

3

Col 1

Task's Gantt chart

Col 2

Tasks per day

Col 3

Hours per day stacked

Col 4

Invoice period workload

Show all experts?

Expert	Show?	Table?	Commitment?
PM.Daniel	☑	☑	☑

Show experts overview?

Tasks definition

Name	Start day	End day	Work	Days	Workdays	Avg	Start t
india.pm	2025-01-01	2025-10-01	130	274	194	0.67	
india.pf	2025-10-02	2025-11-01	25	31	22	1.14	
juliet.e	2025-02-10	2025-02-27	10	18	14	0.71	
kilo.e	2025-03-01	2025-03-24	20	24	16	1.25	
mike.e	2025-04-10	2025-04-20	10	11	7	1.43	
november.	2025-05-26	2025-06-14	10	20	15	0.67	
oscar.e	2025-06-25	2025-07-09	15	15	11	1.36	
oscar.pe	2025-06-25	2025-07-09	15	15	11	1.36	
oscar.pm	2025-07-10	2025-12-30	70	174	124	0.56	
oscar.pf	2025-12-31	2026-01-31	10	32	23	0.43	

Experts names

Name	Comment
PM.Daniel	the 1st unit

Links

Expert	Task
PM.Daniel	alpha.pm
PM.Daniel	alpha.pf
PM.Daniel	beta.pm
PM.Daniel	beta.pf
PM.Daniel	india.pm
PM.Daniel	india.pf
PM.Daniel	oscar.pe
PM.Daniel	oscar.pm
PM.Daniel	oscar.pf
PM.Daniel	juliet.e

Bounds vbday

Expert	Task	Start day	End day	Lower	Upper
PM.Daniel	alpha.pm	2025-01-01	2025-04-01	0	1
PM.Daniel	alpha.pf	2025-04-02	2025-05-02	0	1
PM.Daniel	beta.pm	2025-01-01	2025-06-20	0	1
PM.Daniel	beta.pf	2025-06-21	2025-08-05	0	1
PM.Daniel	india.pm	2025-01-01	2025-10-01	0	1
PM.Daniel	india.pf	2025-10-02	2025-11-01	1	2
PM.Daniel	juliet.e	2025-02-10	2025-02-27	0	1
PM.Daniel	kilo.e	2025-03-01	2025-03-24	1	2
PM.Daniel	mike.e	2025-04-10	2025-04-20	1	2
PM.Daniel	november.e	2025-05-26	2025-06-14	0	1

Bounds vbsum

Expert	Task	Start day	End day	Lower	Upper

empty

Bounds ubday

Expert	Start day	End day	Lower	Upper
PM.Daniel	2025-01-01	2026-01-01	0	2

Bounds ubsum

Expert	Task	Start day	End day	Lower	Upper

empty

Expert bounds and preferences

Expert	Start day	End day	Lower	Upper
PM.Daniel	2025-01-01	2026-01-01	0	3

Invoicing periods

Name	Start day	End day	Days	Workdays
January.2025	2024-12-31	2025-01-15	36	22
February.2025	2025-01-16	2025-02-13	29	21
March.2025	2025-02-14	2025-03-16	31	21
April.2025	2025-03-17	2025-04-14	29	21
May.2025	2025-04-15	2025-05-18	34	23
June.2025	2025-05-19	2025-06-18	31	23
July.2025	2025-06-19	2025-07-17	29	21
August.2025	2025-07-18	2025-08-17	31	21
September.2025	2025-08-18	2025-09-15	29	21
October.2025	2025-09-16	2025-10-15	30	22

Invoicing periods bounds

Expert	Period	Lower	Upper
PM.Daniel	January.2025	0	180
PM.Daniel	February.2025	0	180
PM.Daniel	March.2025	0	180
PM.Daniel	April.2025	0	180
PM.Daniel	May.2025	0	180
PM.Daniel	June.2025	0	180
PM.Daniel	July.2025	0	180
PM.Daniel	August.2025	0	180
PM.Daniel	September.2025	0	180
PM.Daniel	October.2025	0	180