Yumbo. Scheduling, Planning and Resource Allocation

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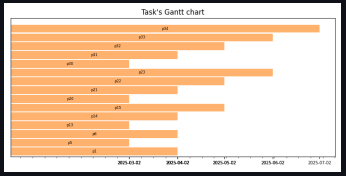
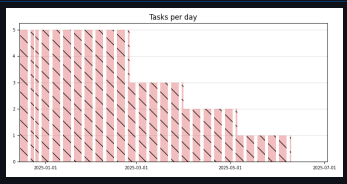
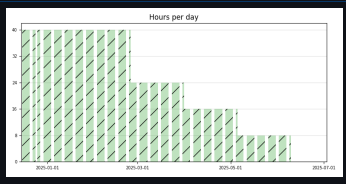
Source code, documentation and sample Excel input files can be found on Yumbo's GitHub repository.

12 January 2025, 17:53:25 PM

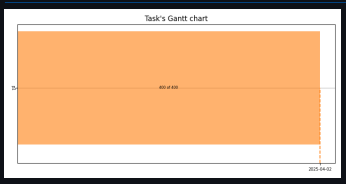
All experts overview

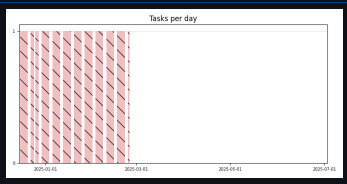


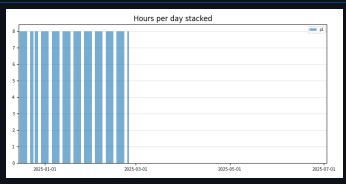




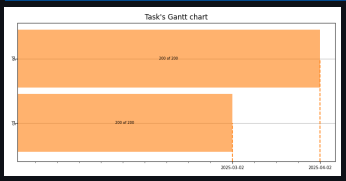
Alojzy 1 task per day

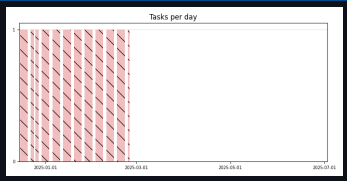


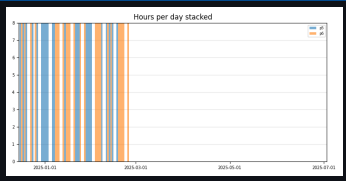




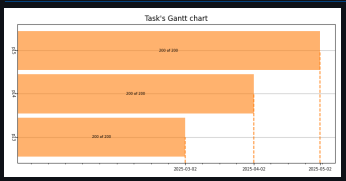
Eugeniusz 2 tasks per day

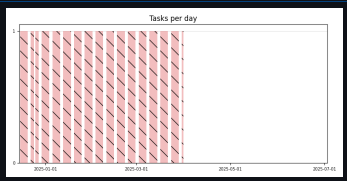


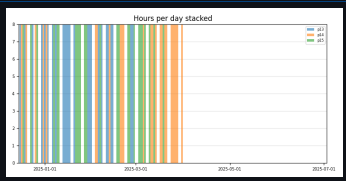




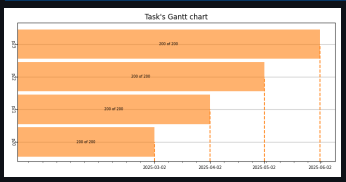
Ignacy 3 tasks per day

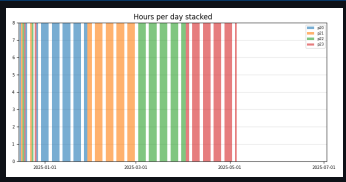




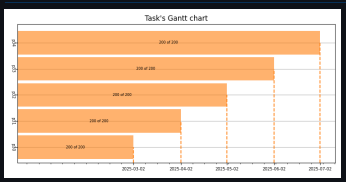


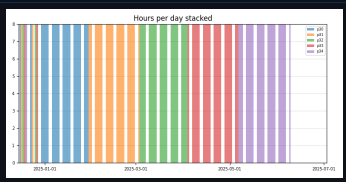
Pafnucy 4 tasks per day





Romuald 5 tasks per day





Solver output at 03 January 2025, 17:53:26 PM

```
SCIP 9.0.1:   tech:outlev-native = 5
LP Solver <Soplex 7.0.1>: barrier convergence tolerance cannot be set -- tolerance of SCIP and LP solver may differ
LP Solver <Soplex 7.0.1>: fastmip setting not available -- SCIP parameter has no effect
LP Solver <Soplex 7.0.1>: number of threads settings not available -- SCIP parameter has no effect
transformed problem has 12623 variables (6274 bin, 6274 int, 0 impl, 75 cont) and 12952 constraints
  12952 constraints of type <linear>

original problem has 33527 active (0.020507%) nonzeros and 33527 (0.020507%) check nonzeros

presolving:
(round 1, fast)       5165 del vars, 10315 del conss, 0 add conss, 14 chg bounds, 0 chg sides, 0 chg coeffs, 0 upgd conss, 0 impls, 0 clqs
(round 2, fast)       10315 del vars, 10315 del conss, 0 add conss, 14 chg bounds, 0 chg sides, 0 chg coeffs, 0 upgd conss, 0 impls, 0 clqs
(round 3, exhaustive) 10315 del vars, 10315 del conss, 0 add conss, 14 chg bounds, 0 chg sides, 0 chg coeffs, 1202 upgd conss, 0 impls, 0 clqs
(round 4, exhaustive) 10315 del vars, 10315 del conss, 0 add conss, 14 chg bounds, 0 chg sides, 0 chg coeffs, 2415 upgd conss, 1197 impls, 0 clqs
   (0.1s) probing: 100/1154 (8.7%) - 0 fixings, 0 aggregations, 206 implications, 0 bound changes
   (0.1s) probing: 200/1154 (17.3%) - 0 fixings, 0 aggregations, 386 implications, 0 bound changes
   (0.1s) probing: 300/1154 (26.0%) - 0 fixings, 0 aggregations, 575 implications, 0 bound changes
   (0.1s) probing: 400/1154 (34.7%) - 0 fixings, 0 aggregations, 776 implications, 0 bound changes
   (0.1s) probing: 500/1154 (43.3%) - 0 fixings, 0 aggregations, 961 implications, 0 bound changes
   (0.1s) probing: 600/1154 (52.0%) - 0 fixings, 0 aggregations, 1168 implications, 0 bound changes
   (0.1s) probing: 700/1154 (60.7%) - 0 fixings, 0 aggregations, 1359 implications, 0 bound changes
   (0.1s) probing: 800/1154 (69.3%) - 0 fixings, 0 aggregations, 1561 implications, 0 bound changes
   (0.1s) probing: 900/1154 (78.0%) - 0 fixings, 0 aggregations, 1739 implications, 0 bound changes
   (0.1s) probing: 1000/1154 (86.7%) - 0 fixings, 0 aggregations, 1946 implications, 0 bound changes
   (0.1s) probing: 1100/1154 (95.3%) - 0 fixings, 0 aggregations, 2149 implications, 0 bound changes
   (0.1s) probing aborted: 1000/1000 successive useless probings
   (5.1s) symmetry computation started: requiring (bin +, int +, cont +), (fixed: bin -, int -, cont -)
   (0.1s) no symmetry present (symcode time: 0.00)
cons components found 5 undirected components at node 1, depth 0 (0)
clique table cleanup detected 0 bound changes

presolved problem has 4523 active (0.1715795) nonzeros and 4523 (0.1715795) check nonzeros

presolving (5 rounds: 5 fast, 3 medium, 3 exhaustive):
 11101 deleted vars, 11220 deleted constraints, 0 added constraints, 24 tightened bounds, 0 added holes, 0 changed sides, 0 changed coefficients
 4472 implications, 0 cliques
presolved problem has 1522 variables (761 bin, 761 int, 0 impl, 0 cont) and 1732 constraints
   1565 constraints of type <varbound>
    167 constraints of type <linear>
Presolving Time: 2.13

 time | node  | left  |LP iter|LP it|n|mem|heur|mdpt |vars |cons |rows |cuts |sepa|confs|strbr|  dualbound   |   primalbound   |  gap   | compl.
p 2.2s|     1 |     0 |   378 |     -|  |   |locks|   0 |1522 |1755 |1732 |   0 |   0 |  23 |   0 | 4.759709e+03 | 1.181620e+04 | 148.26% | unknown
p 2.2s|     1 |     0 |   378 |     -| vbounds|   0 |1522 |1755 |1732 |   0 |   0 |  23 |   0 | 4.759709e+03 | 1.181620e+04 | 148.26% | unknown
  0.2s|     1 |     0 |  1162 |     -|  |GlM|   0 |1522 |1755 |1732 |   0 |   0 |  23 |   0 | 1.181620e+04 | 1.181620e+04 |   0.00% | unknown

SCIP Status        : problem is solved [optimal solution found]
Solving Time (sec) : 0.20
Solving Nodes      : 1
Primal Bound       : +1.18162013478445e+04 (2 solutions)
Dual Bound         : +1.18162013478445e+04
Gap                : 0.00 %
WARNING: No dual information available when presolving was performed.
SCIP 9.0.1: optimal solution; objective 11816.20135
194 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

04-round-robin.xlsx 25.0KB

See the Yumbo's GitHub repository for sample Excel input files.

Today: 2024-12-15

Hours per day: 8

Customise report

Expert	Show?	Stacked?	Gantt?	Table?	Workloa
Alojzy	☑	☑	☑	☐	☐
Eugeniusz	☑	☑	☑	☐	☐
Ignacy	☑	☑	☑	☐	☐
Pafnucy	☑	☑	☑	☐	☐
Romuald	☑	☑	☑	☐	☐

Tasks definition

Name	Start day	End day	Work	Days	Workdays	Avg
p1	2024-12-16	2025-04-02	400	108	77	5.19
p5	2024-12-16	2025-03-02	200	77	54	3.70
p6	2024-12-16	2025-04-02	200	108	77	2.60
p13	2024-12-16	2025-03-02	200	77	54	3.70
p14	2024-12-16	2025-04-02	200	108	77	2.60
p15	2024-12-16	2025-05-02	200	138	99	2.02
p20	2024-12-16	2025-03-02	200	77	54	3.70
p21	2024-12-16	2025-04-02	200	108	77	2.60
p22	2024-12-16	2025-05-02	200	138	99	2.02
p23	2024-12-16	2025-06-02	200	169	120	1.67

Experts names

Name	Comment
Alojzy	1 task per day
Eugeniusz	2 tasks per day
Ignacy	3 tasks per day
Pafnucy	4 tasks per day
Romuald	5 tasks per day

Links

Expert	Task
Alojzy	p1
Eugeniusz	p5
Eugeniusz	p6
Ignacy	p13
Ignacy	p14
Ignacy	p15
Pafnucy	p20
Pafnucy	p21
Pafnucy	p22
Pafnucy	p23

Bounds xbday

Expert	Task	Start day	End day	Lower	Upper
Eugeniusz	p5	2024-12-16	2024-12-16	8	8
Eugeniusz	p6	2024-12-17	2024-12-17	8	8
Eugeniusz	p5	2024-12-18	2024-12-18	8	8
Eugeniusz	p6	2024-12-19	2024-12-19	8	8
Eugeniusz	p5	2024-12-20	2024-12-20	8	8
Eugeniusz	p6	2024-12-23	2024-12-23	8	8
Eugeniusz	p5	2024-12-24	2024-12-24	8	8
Eugeniusz	p6	2024-12-26	2024-12-26	8	8
Eugeniusz	p5	2024-12-27	2024-12-27	8	8
Ignacy	p13	2024-12-16	2024-12-16	8	8

Bounds xbsum

Expert	Task	Start day	End day	Lower	Upper

empty

Bounds ubday

Expert	Start day	End day	Lower	Upper

empty

Bounds ubsum

Expert	Task	Start day	End day	Lower	Upper

empty

Expert bounds and preferences

Expert	Start day	End day	Lower	Upper

empty

Invoicing periods

Name	Start day	End day	Days	Workdays
25.Jan	2024-12-11	2025-01-15	36	25
25.Feb	2025-01-16	2025-02-13	29	21
25.Mar	2025-02-14	2025-03-16	31	21
25.Apr	2025-03-17	2025-04-14	29	21
25.May	2025-04-15	2025-05-19	34	24

Invoicing periods bounds

Expert	Period	Lower	Upper

empty