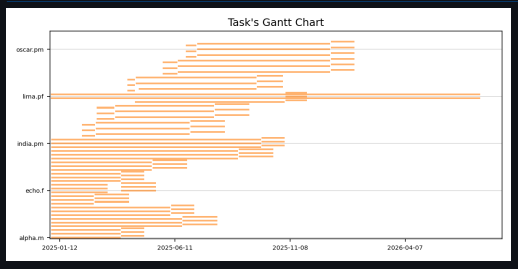
Yumbo. Scheduling, Planning and Resource Allocation

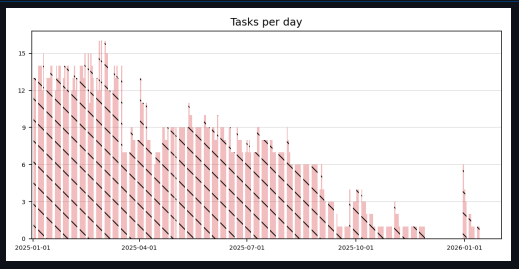
Zbigniew Romanowski, Paweł Koczyk

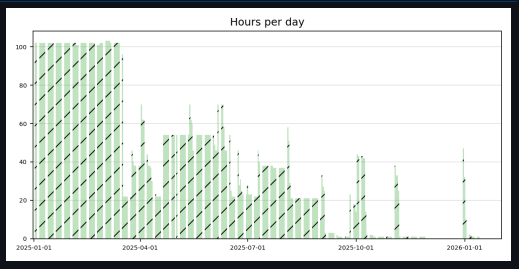
Source code, documentation and sample Excel input files can be found on Yumbo's GitHub repository.

06 January 2025, 08:53:23 AM

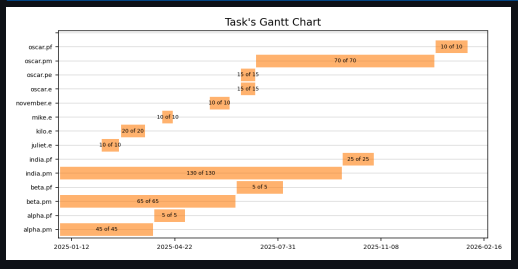
Experts overview

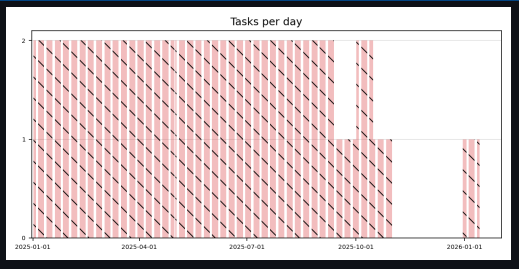


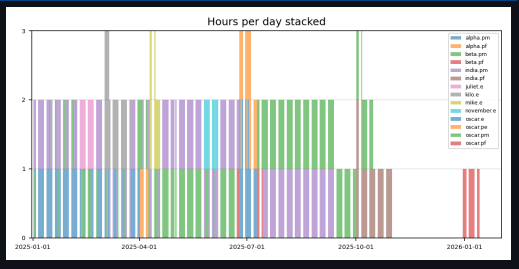




PM.Daniel the 1st unit







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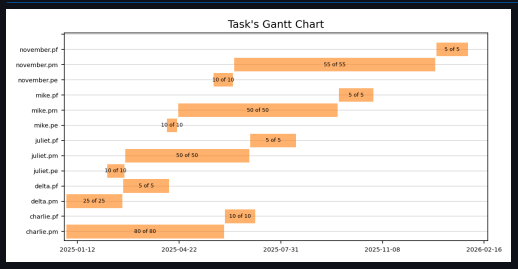

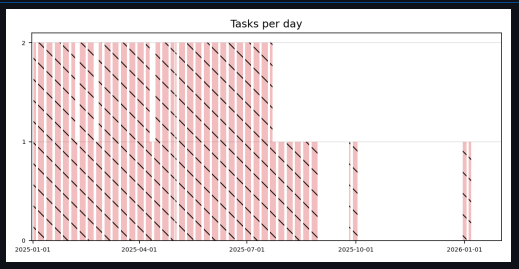

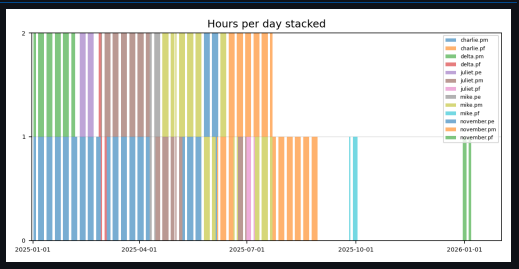

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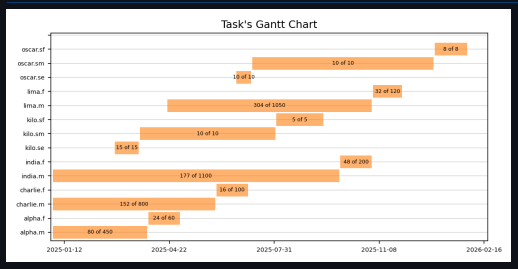

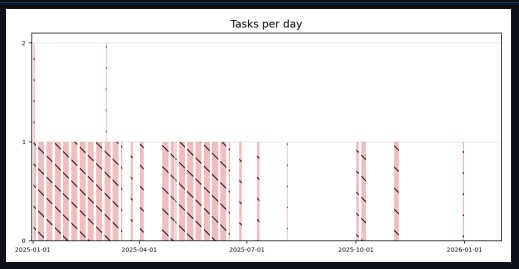

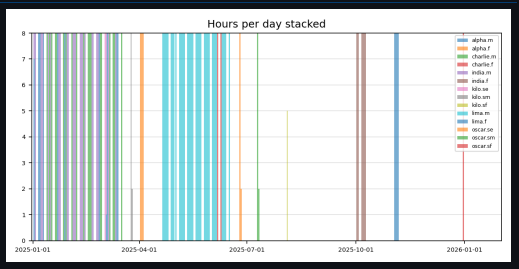

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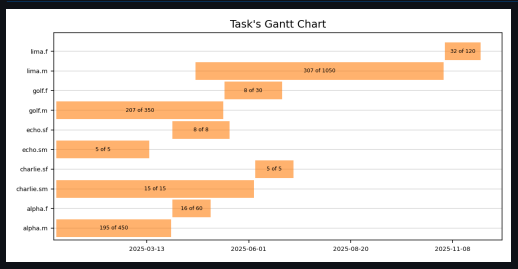
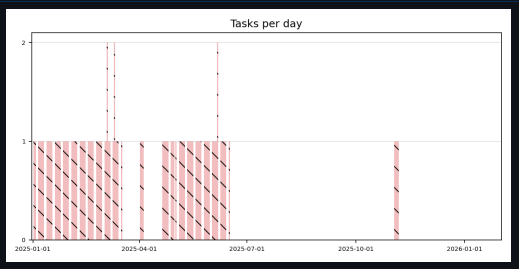
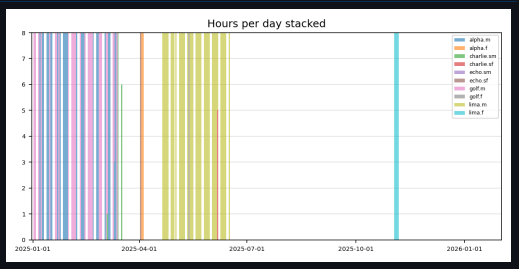
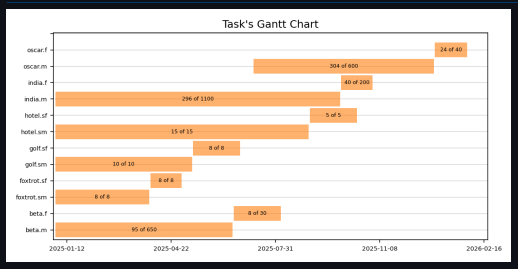
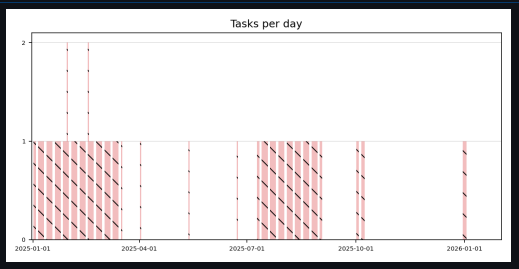


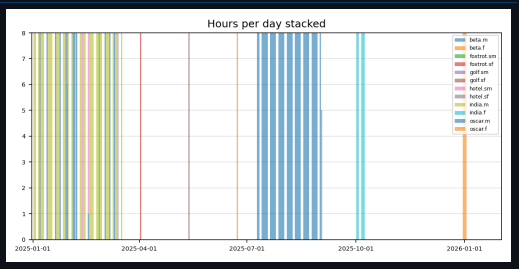




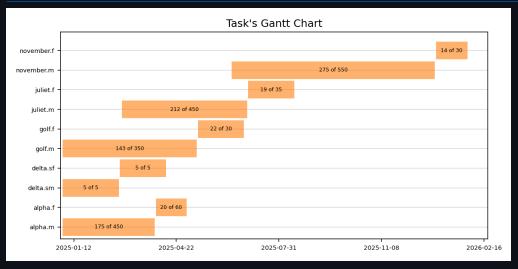
SA.Robert the 1st unit

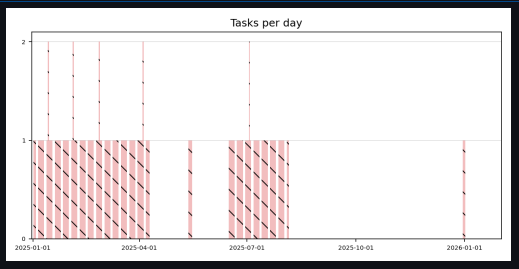






DEV.Hugo the 1st unit





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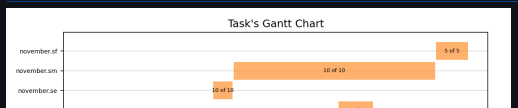

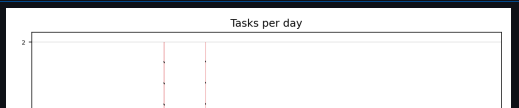

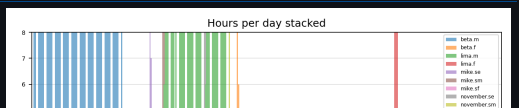

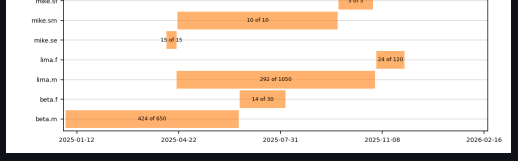

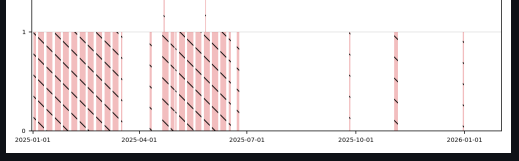

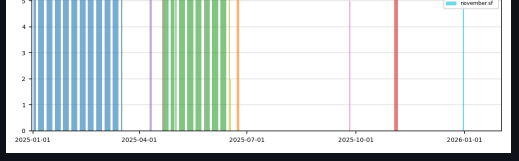

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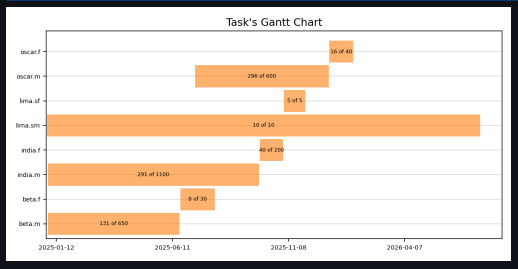

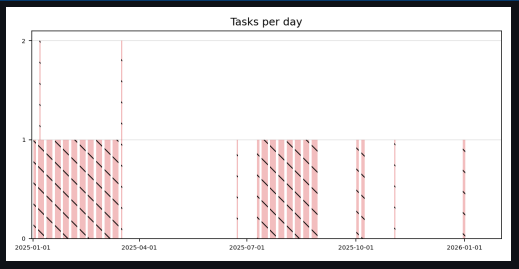

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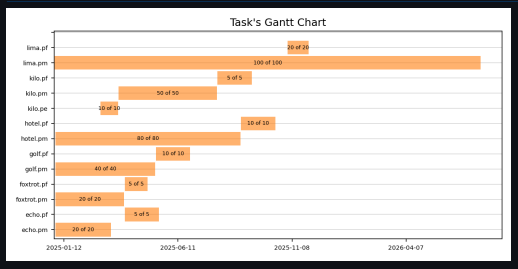

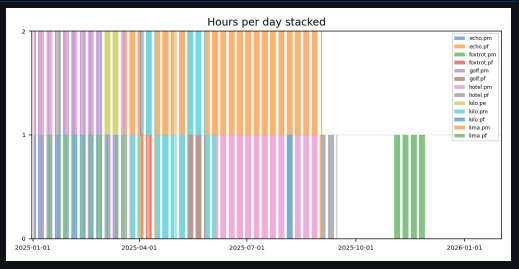

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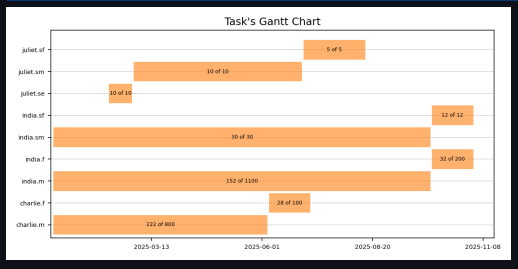

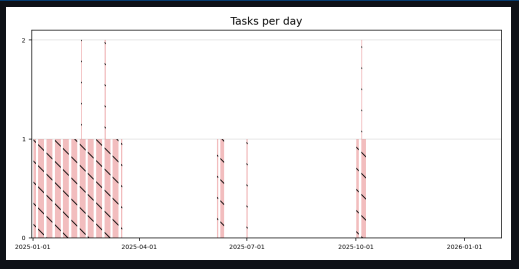

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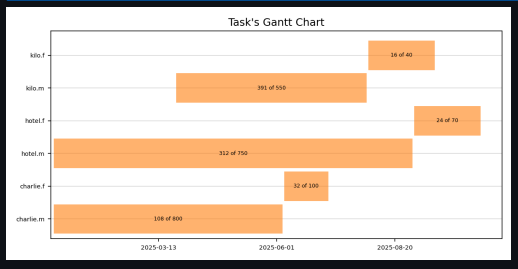

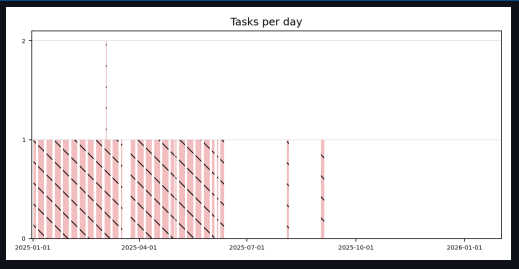

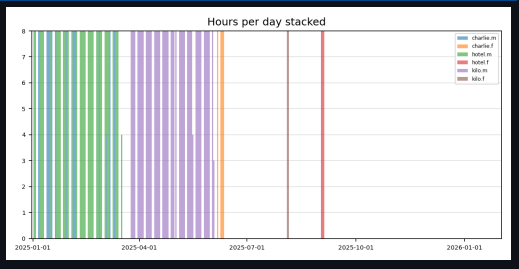

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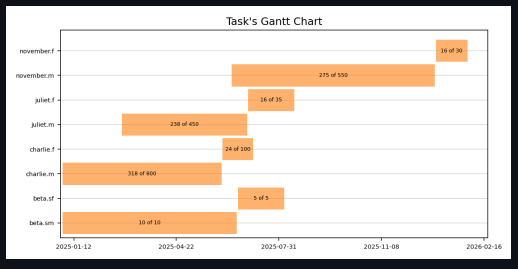

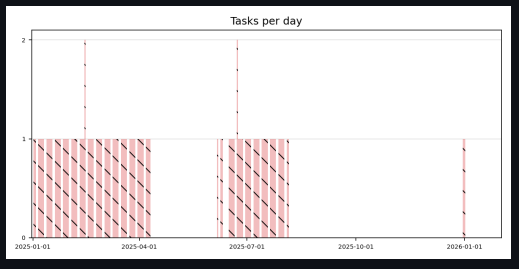

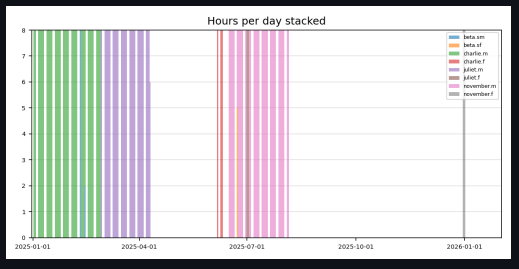

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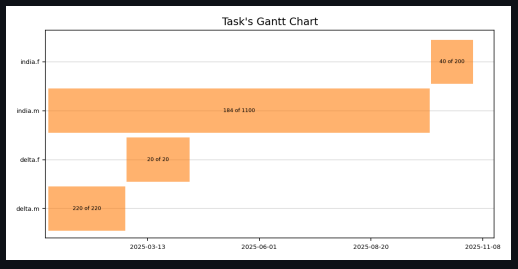

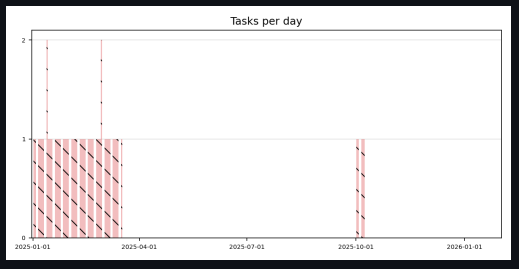

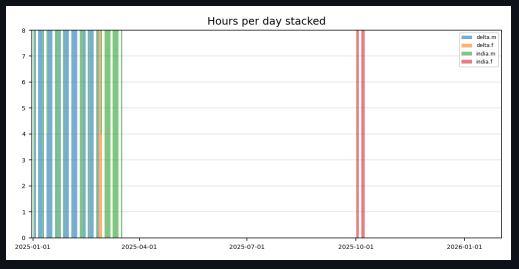

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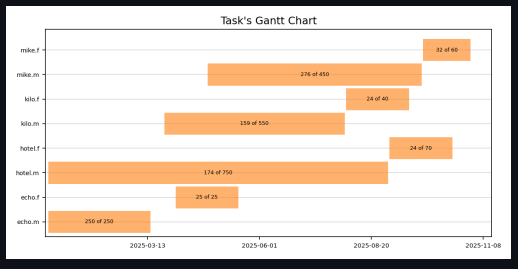
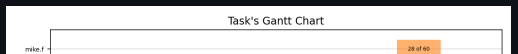
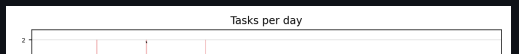
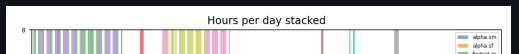
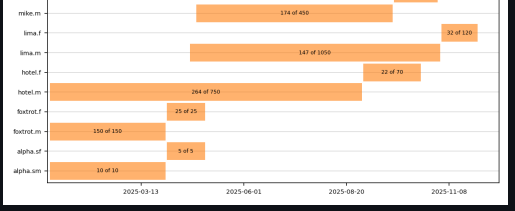


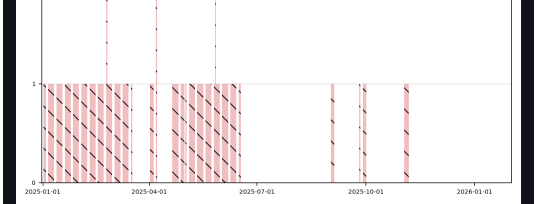
DEV.Michael the 1st unit

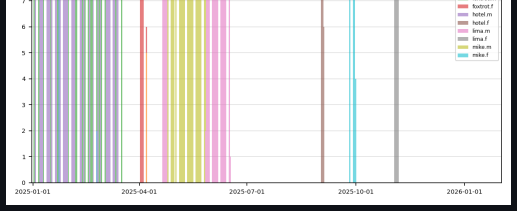












Solver output at 06 January 2025, 08:49:39 AM

```
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, 5e+01]
  RHS    [1e+00, 1e+03]
Presolving model
194265 rows, 191332 cols, 408142 nonzeros  0s
18230 rows, 103388 cols, 56857 nonzeros  0s
16890 rows, 17387 cols, 55568 nonzeros  0s
16890 rows, 17387 cols, 55548 nonzeros  0s

Solving MIP model with:
   16890 rows
   17387 cols (9768 binary, 7627 integer, 0 implied int., 0 continuous)
   55548 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%   103.2195027     inf                inf        0      0      0         0     0.7s
R        0       0         0   0.00%   38236.661886    38236.661886     0.00%        0      0      0      3178     0.9s

Solving report
  Status            Optimal
  Primal bound      38236.6618865
  Dual bound        38236.6618865
  Gap               0% (tolerance: 0.01%)
  Solution status   feasible
                    38236.6618865 (objective)
                    0 (bound viol.)
                    0 (int. viol.)
                    0 (row viol.)
  Timing            0.88 (total)
                    0.71 (presolve)
                    0.00 (postsolve)
  Nodes             1
  LP iterations     3262 (total)
                    0 (strong br.)
                    0 (separation)
                    0 (heuristics)
HiGHS 1.7.1: optimal solution; objective 38236.66189
2262 simplex iterations
1 branching nodes

"option abs_boundtol 7.105427357601002e-15;"
or "option rel_boundtol 1.5786824397762819e-16;"
will change deduced dual values.
```