

## FINAL ASSIGNMENT : Schedule search

Jasdeep Singh  
jasdeep.singh@ipsa.fr

April 2025

Given a task set :

Task	$C$	$T_i$
$\tau_1$	2	10
$\tau_2$	3	10
$\tau_3$	2	20
$\tau_4$	2	20
$\tau_5$	2	40
$\tau_6$	2	40
$\tau_7$	3	80

Check schedulability, if schedulable then find a non preemptive schedule (python, C or C++) at job level to ensure

- No deadlines are missed
- Total waiting (delay because another job is executing) across all jobs is minimum, this should imply that total processor idle time is maximized, verify this

Then, find a schedule which minimizes total waiting time but task  $\tau_5$  is allowed to miss a deadline

Write a clear report in which:

- You show the task set is schedulable

- The assumptions you make along the way (optimisation methods, why hyperperiod, etc.)
- The computational complexity if your algorithm a function of number of tasks
- The schedulability analysis where each job's response time is listed and verified that it is less than the corresponding deadline

The report and the git link where the code is stored should be sent by email before 28/04/2025 midnight.

\*\*\*