

Practical exercise – EMBED – 2018/2019

The project's goal is to simulate the behavior of several partitioning strategies. All the tasks are periodic with deadlines equal to periods. We will assume that each processor uses the Rate Monotonic Scheduler.

The software will be composed on the following parts :

1. **Data acquisition.** The user will specify the number of tasks and for each task, its WCET and period. We will assume that the task set is synchronous to time zero.
2. **Partitionning.** This part will focus on the partitioning of the tasks. You will simulate BF (Best Fit), FF (First Fit) and NF (Next Fit). Each strategy will be coded as a function which input is a set of tasks and the outputs are for each processor, the processor utilization and identity of the tasks assigned to it.
3. **Metrics:** number of processors, highest processor utilization, lowest processor utilization.
4. **Optional.** In order to get a statistical evaluation of the three partitioning strategies, you create a function that provides random task sets. And for each generated task set you apply the partitioning strategies. The input of this function could be the number of tasks and total processor utilization. This will permit us to generate evaluation of the partitioning strategies in terms of number of processors needed by making vary the total processor utilization.

Report:

You will have to produce a pdf file that includes the source code with comments and screen captures to show different test cases. You will send your file entitled **nameofstudent_CORO_EMBED.pdf** before 30 november to the following address maryline.chetto@univ-nantes.fr.

