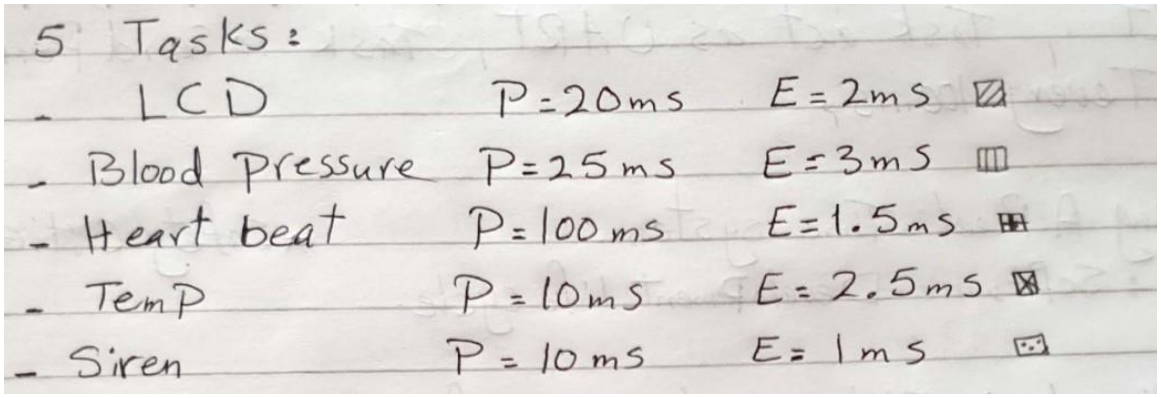
- Tasks needed:
  5 Tasks

LCD	P: 20ms E: 2ms
Blood Pressure	P: 25ms E: 3ms
Heart beat	P: 100ms E: 1.5ms
Temp	P: 10ms E: 2.5ms
Siren	P: 10ms E: 1ms

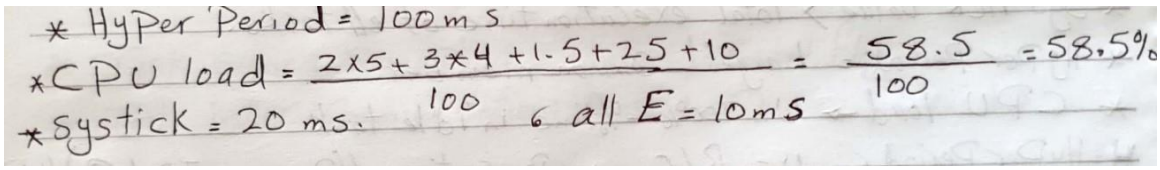
- The deadline for all tasks is its periodicity
- System Tick Rate > total execution time for all tasks

  Systick > 10ms = 20ms
- Hyper period = 100 ms
- CPU Load = busy time / (busy time + idle time)
  = {(2*5)+(3*4)+1.5+(2.5*10)+(1*10)}/100
  = 58.5/100 = 58.5%
- Schedulability: the system is schedulable because no task has exceeded its deadline
- Manual solution

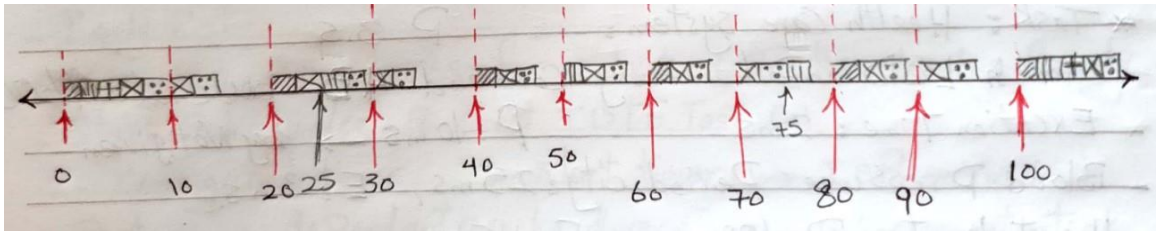
Tasks calculations:



Hyper period & CPU load:

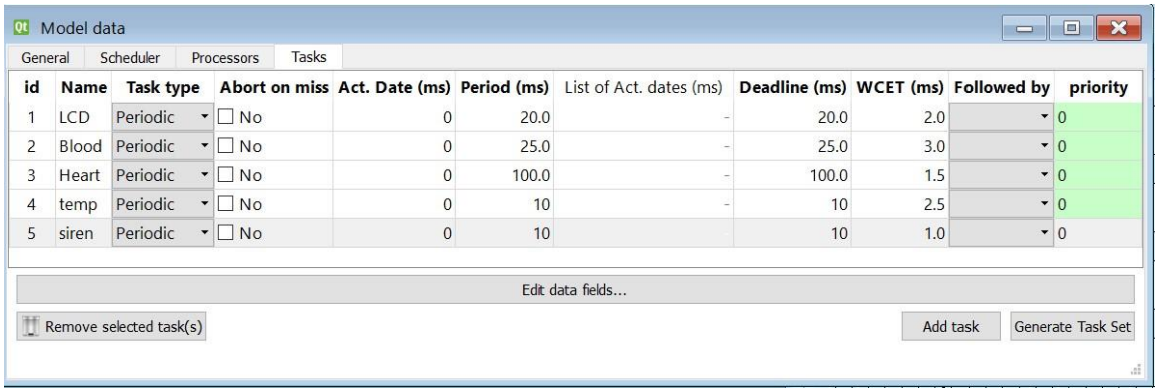


Timeline :



- Simso model:

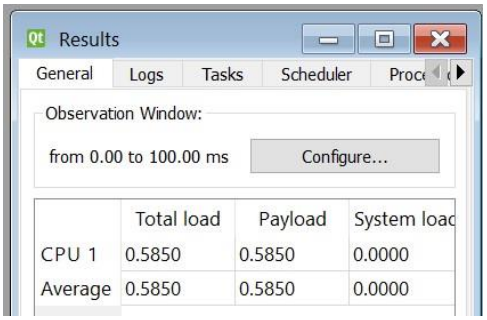
Tasks



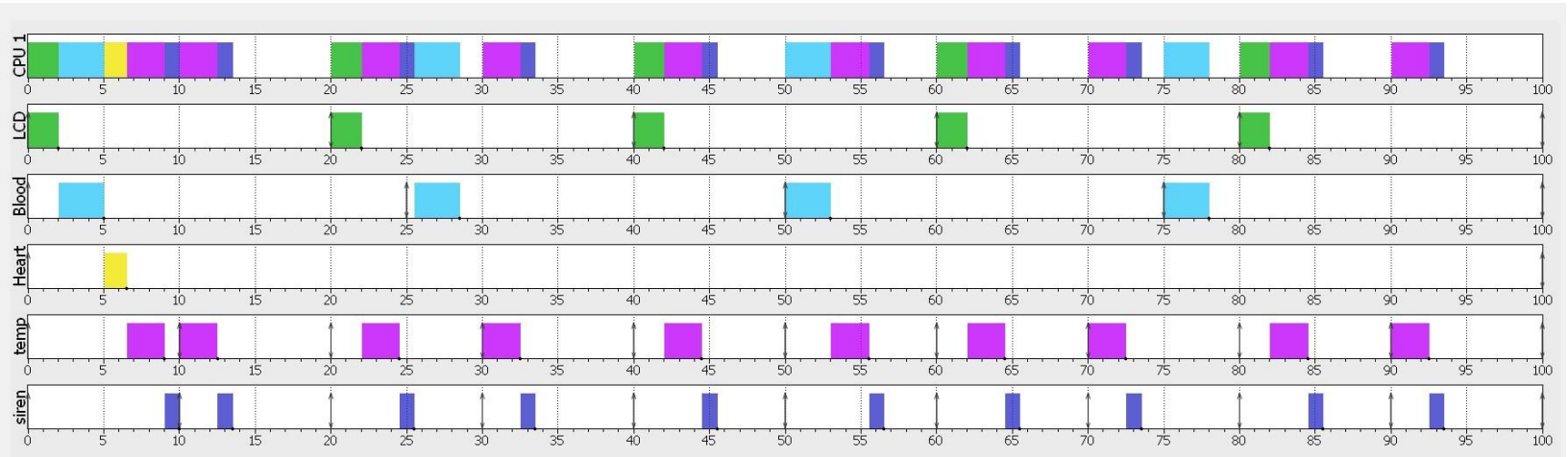
id	Name	Task type	Abort on miss	Act. Date (ms)	Period (ms)	List of Act. dates (ms)	Deadline (ms)	WCET (ms)	Followed by	priority
1	LCD	Periodic	No	0	20.0	-	20.0	2.0		0
2	Blood	Periodic	No	0	25.0	-	25.0	3.0		0
3	Heart	Periodic	No	0	100.0	-	100.0	1.5		0
4	temp	Periodic	No	0	10	-	10	2.5		0
5	siren	Periodic	No	0	10		10	1.0		0

CPU Load:

The same CPU Load as calculated manually



Timeline



The system is schedulable as all tasks execute before their deadline