Real-Time Systems Lab 2

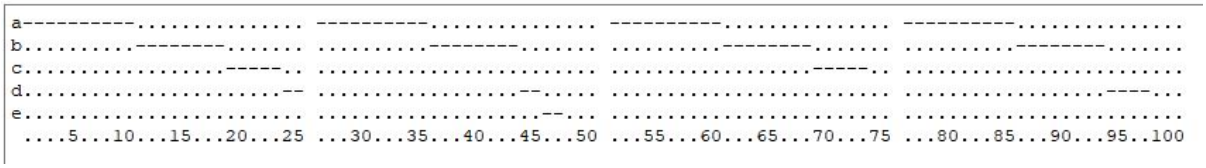
Niklas Hollenbeck (735992), Lukas Giesler (741676)

1 Timeline output as String for RMS and DMS

RMS Timeline string

abcd abde abc abd

Timeline graph



2 Response Time Analysis

Import File | Raw task set | RMS | DMS

Process Name	Period T	Computation Time C	Deadline D
a	3	1	3
b	6	1	6
c	5	1	5
d	10	4	10

2.1 Simplified RTA

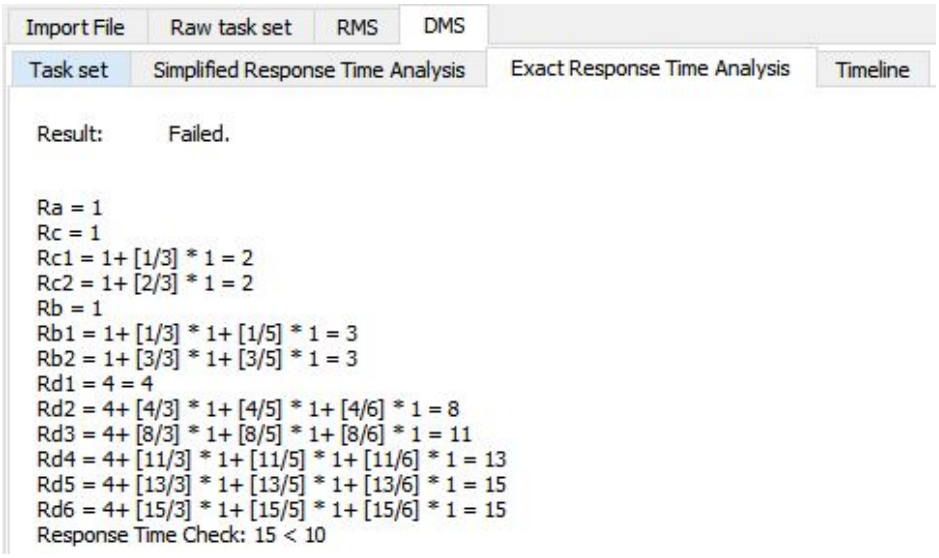
Import File | Raw task set | RMS | DMS

Task set | Simplified Response Time Analysis | Exact Response Time Analysis | Timeline

Result: Passed.

Rd = 4
Rb1 = 2
Rc1 = 2
Rc2 = 3
Ra1 = 2
Ra2 = 3
Ra3 = 4
Response Time Check: 4 <= 10

2.2 Exact RTA

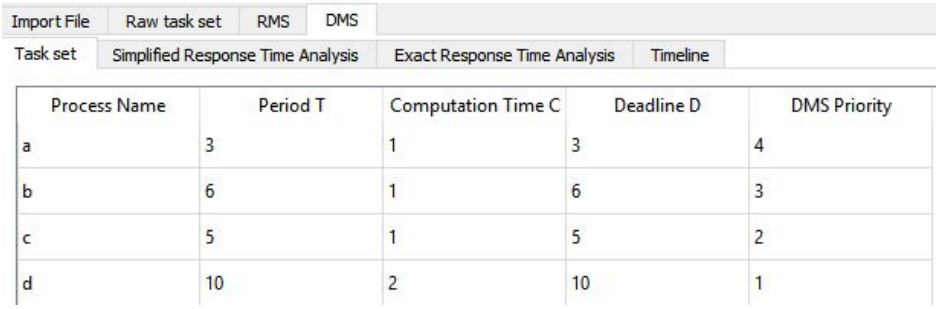


2.3 Comparing the Results

It's clear that the simplified RTA has shown a significantly different result in this example. While the simplified RTA evaluated that the analysis was passed successfully, the exact RTA evaluated that this task failed the analysis.

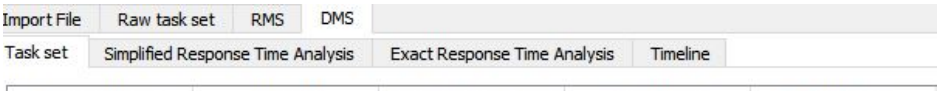
3 Optimal Priority Assignment using Exact RTA

3.1 Before OPA, Priority assigned by order



Process Name	Period T	Computation Time C	Deadline D	DMS Priority
a	3	1	3	4
b	6	1	6	3
c	5	1	5	2
d	10	2	10	1

3.2 After OPA



Process Name	Period T	Computation Time C	Deadline D	DMS Priority
a	3	1	3	1
b	6	1	6	4
c	5	1	5	2
d	10	2	10	3