Q1

Process	J_2	J_1	J_3	J_5	J_4	J_6
End times	2	3	6	8	12	19
Deadlines	4	15	14	8	12	20
Lateness	-2	-12	-8	0	0	-1

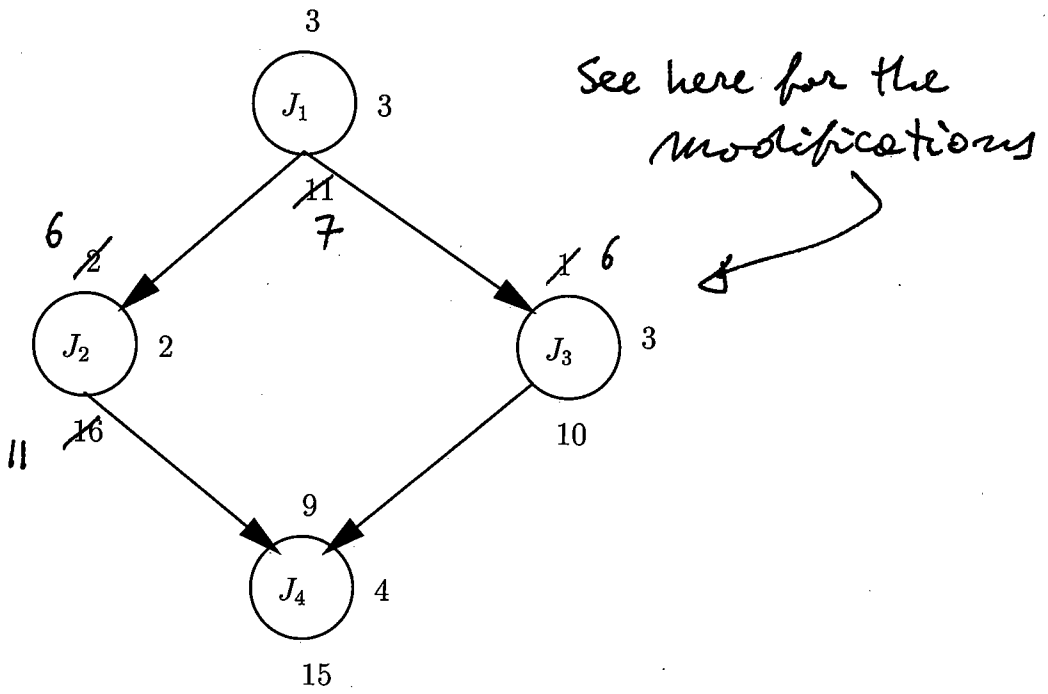
Max Lateness = 0

Question 2 [20 points]

Consider four **aperiodic** processes J_1, J_2, J_3, J_4 with computation times C_i, release times r_i, and deadlines D_i given, for $1 \leq i \leq 4$, by:

	r_i	C_i	D_i
J_1	3	3	11
J_2	2	2	16
J_3	1	3	10
J_4	9	4	15

and with the dependency relation depicted below:



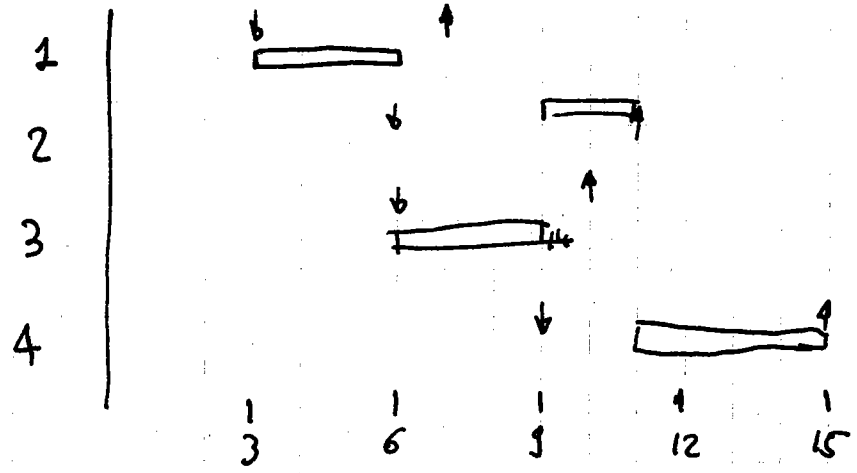
Question 2, Part 1 10 pt] Modify release times and deadlines to schedule the processes with EDF. Suggestion: do it on the picture on the previous page.
Question 2, Part 2 [10 pt] Schedule the resulting processes with EDF. Are they schedulable?

Question 3 [20 points]

Consider four **aperiodic** processes J_1, J_2, J_3, J_4 with computation times C_i, release times r_i, and deadlines D_i given, for $1 \leq i \leq 4$, by:

	r_i	C_i	D_i
J_1	3	5	13
J_2	0	4	16
J_3	5	4	10
J_4	1	5	17

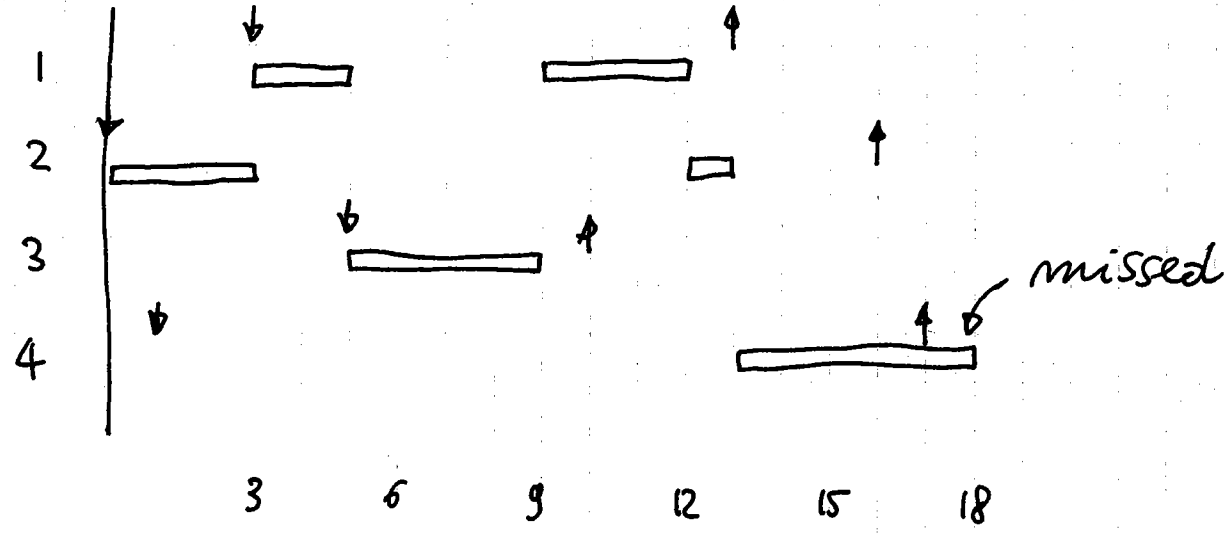
Q2



Yes, they are schedulable.

Q3

pt. 1 : EDF:



pt 2: no other method than EDF works.

pt. 3: Yes, J_1, J_2, J_3 are schedulable (see answer to pt. 1)

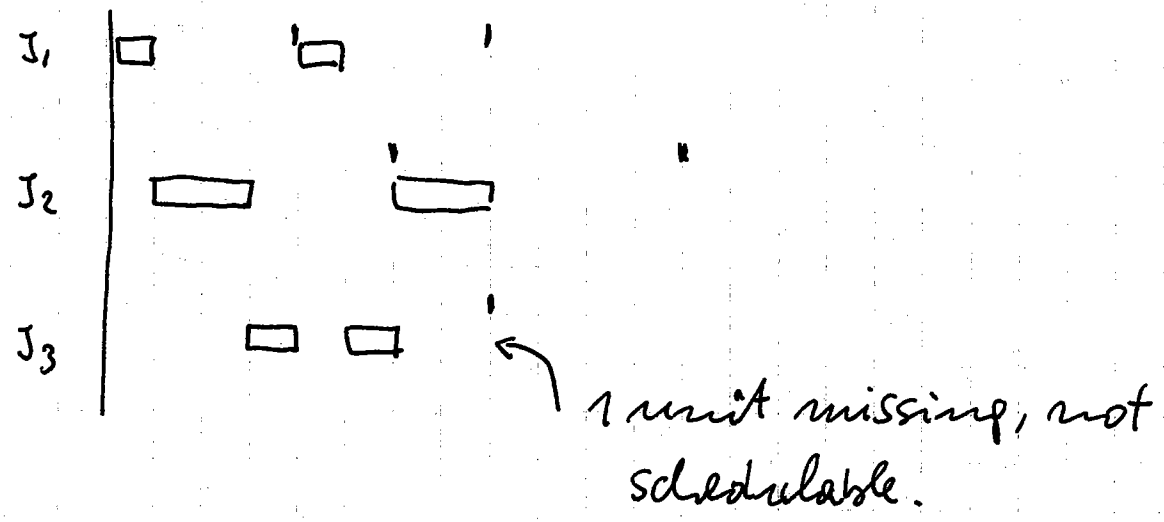
pt. 4: No.
We cannot fit in J_1 before or after J_3.

Max Time = $\max\{4, 6, 8\} = 8$

Q4

Part 1

RM



part 2: let us try with EDF:

$$\frac{1}{4} + \frac{2}{6} + \frac{3}{8} \leq 1$$ schedulable!

Q5

part 1

$\frac{2}{4} + \frac{3}{6} = 1 \leq 1$ ok, schedulable by EDF.

part 2

No. By absurd: the utilization is already 1, if we strengthen any constraints, we cannot satisfy them all.

Precisely:

Deadlines: $mcm(4,6) = 12$

$C_1 = 2$ J_1 3 7 11

$C_2 = 3$ J_2 5 10

$C_p(0,3) = 2$

$C_p(0,5) = 2+3 = 5$

$C_p(0,7) = 5+2 = 7$

$C_p(0,11) = 7+3+2 = 12 \not\leq 11$ → no, not schedulable.