Input format RCPSP/max-cal

n	K	$\overline{d}$									
$\mathbf{Cal}_1(0)$	$\mathbf{Cal}_1^{Set}$										
$\mathbf{Cal}_2(0)$	$\mathbf{Cal}_2^{Set}$										
$\cdots$											
$\mathbf{Cal}_K(0)$	$\mathbf{Cal}_K^{Set}$										
0	V_0^{bi}	s_0	j_1^0	$\cdots$	$j_{s_0}^0$	δ_{0,j_1^0}	$\cdots$	$\delta_{0,j_{s_0}^0}$	$\mathcal{R}'_{0,j_1^0}$	$\cdots$	$\mathcal{R}'_{0,j_{s_0}^0}$
1	V_1^{bi}	s_1	j_1^1	$\cdots$	$j_{s_1}^1$	δ_{1,j_1^1}	$\cdots$	$\delta_{1,j_{s_1}^1}$	$\mathcal{R}'_{1,j_1^1}$	$\cdots$	$\mathcal{R}'_{1,j_{s_1}^1}$
$\cdots$											
n	V_n^{bi}	s_n	j_1^n	$\cdots$	$j_{s_n}^n$	δ_{n,j_1^n}	$\cdots$	$\delta_{n,j_{s_n}^n}$	$\mathcal{R}'_{n,j_1^n}$	$\cdots$	$\mathcal{R}'_{n,j_{s_n}^n}$
$n+1$	V_{n+1}^{bi}	0									
0	p_0	ε_0	r_{01}	r_{02}	$\cdots$	r_{0K}					
1	p_1	ε_1	r_{11}	r_{12}	$\cdots$	r_{1K}					
$\cdots$											
n	p_n	ε_n	r_{n1}	r_{n2}	$\cdots$	r_{nK}					
$n+1$	p_{n+1}	ε_{n+1}	$r_{n+1,1}$	$r_{n+1,2}$	$\cdots$	$r_{n+1,K}$					
ρ_1	ρ_2	$\cdots$	ρ_K								
R_1	R_2	$\cdots$	R_K								

Symbols

symbol	meaning
n	number of real activities
K	number of renewable resources
$\overline{d}$	prescribed maximum project duration
$\mathbf{Cal}_k(0)$	$= \begin{cases} 1, \text{if the first period of the resource calendar } \mathbf{Cal}_k \text{ is a working period} \\ 0, \text{if the first period of the resource calendar } \mathbf{Cal}_k \text{ is a break period} \end{cases}$
$\mathbf{Cal}_k^{Set}$	Set of numbers that describe work periods and break periods alternately, starting with work periods if $\mathbf{Cal}_k(0) = 1$ and with break periods otherwise
V_i^{bi}	$= \begin{cases} 1, \text{if activity } i \text{ is interruptible, i.e., } i \in V^{bi} \\ 0, \text{activity } i \text{ is non-interruptible, i.e., } i \in V^{ni} \end{cases}$
s_i	number of direct successors of node i in project network
j_s^i	s-th successor of node i in project network
δ_{i,j_s^i}	weight of arc $\langle i, j_s^i \rangle$
$\mathcal{R}'_{i,j_s^i}$	$= \begin{cases} 0, \text{if } \mathcal{R}_{ij} = \emptyset \\ 1, \text{if } \mathcal{R}_{ij} = \mathcal{R}_i \\ 2, \text{if } \mathcal{R}_{ij} = \mathcal{R}_j \\ 3, \text{if } \mathcal{R}_{ij} = \mathcal{R}_i \cup \mathcal{R}_j \end{cases}$
p_i	processing time of activity i
ε_i	start-up phase of activity i
r_{ik}	resource requirement of activity i on resource k
ρ_k	equals 1 if resource k stays engaged during an interruption and 0 otherwise
R_k	capacity of resource k

Example from Kreter, S., Rieck, J., Zimmermann, J., 2014. Models and solution procedures for the resource constrained project scheduling problem with general temporal constraints and calendars. Working paper. TU Clausthal.

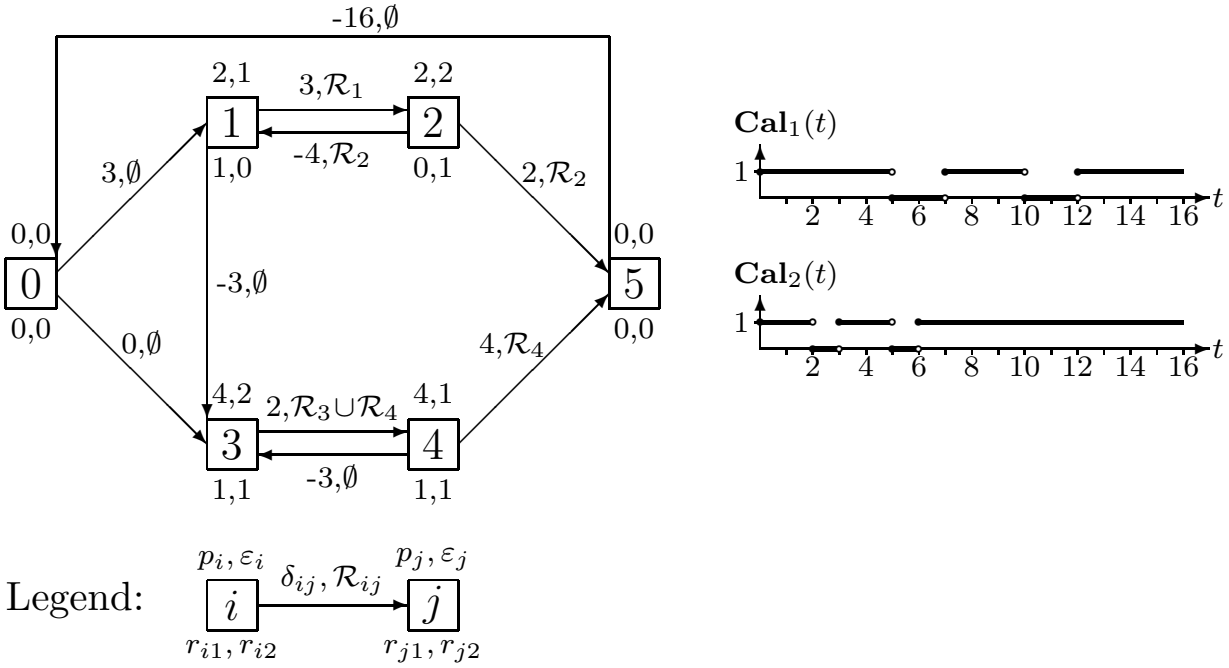

Figure 1: Activity-on-node network with two renewable resources

Corresponding input format

```
4   2   16
1   5   2   3   2   5
1   2   1   2   1   11
0   0   2   1   3   3    0    0   0
1   1   2   2   3   3    −3   1   0
2   0   2   1   5   −4   2    1   1
3   1   1   4   2   3
4   1   2   3   5   −3   4    0   1
5   0   0
0   0   0   0   0
1   2   1   1   0
2   2   2   0   1
3   4   2   1   1
4   4   1   1   1
5   0   0   0   0
0   0
2   3
10
```