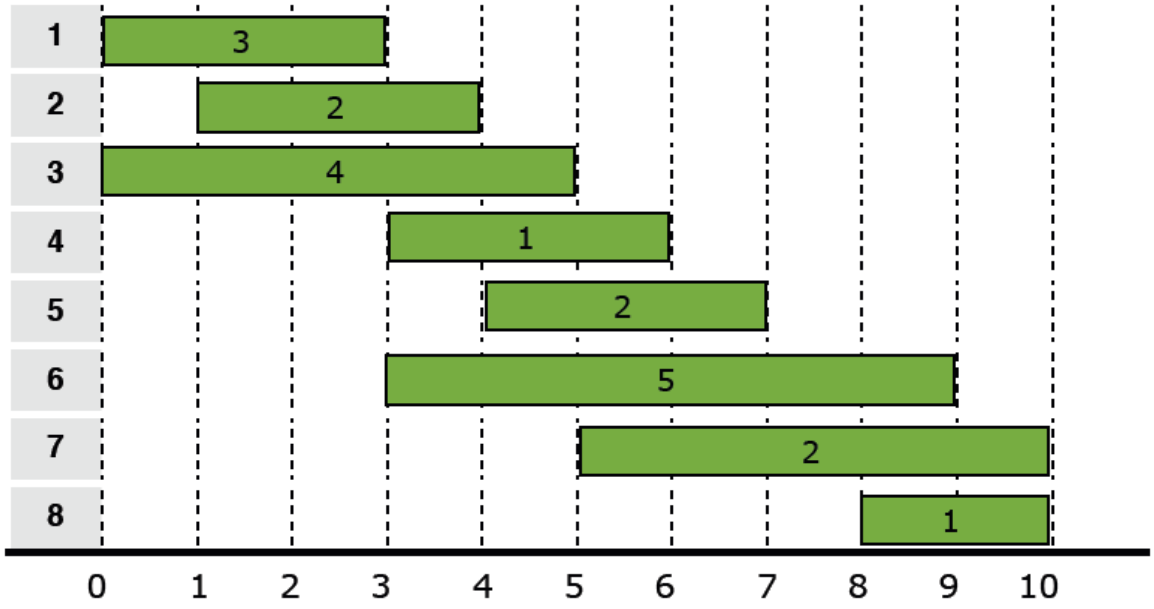
Name: **SOLUTION**

[10p] Find the optimal value and the corresponding interval sequence of the weighted interval scheduling problem where jobs are given by the following triples of the form (start time, finish time, value):

(0,3,3) (0,5,4) (1,4,2) (3,6,1) (3,9,5) (4,7,2) (5,10,2) (8,10,1)

Show your work. *(No point if the solution is obtained by brute force or guessing.)*

First, label the jobs in ascending order of their finish times.



j	s(j)	f(j)	v(j)	p(j)	v(j)+OPT(p(j))	OPT(j-1)	OPT(j)
0							0
1	0	3	3	**0**	3	0	3
2	1	4	2	**0**	2	3	3
3	0	5	4	**0**	4	3	4
4	3	6	1	**1**	4	4	4
5	4	7	2	**2**	5	4	5
6	3	9	5	**1**	8	5	8
7	5	10	2	**3**	6	8	8
8	8	10	1	**5**	6	8	8

Optimal scheduling is (0,3,3) (3,9,5) which yields a total value of 8.