

# Practice 4.2: Scheduling

## *Combinatorial Optimization*

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### Delivering a project estimate

To find the expected time between events:

$$t_e = \frac{t_o + 4t_m + t_p}{6}$$

- $t_e$  is the expected time
- $t_o$  is the most optimistic time
- $t_p$  is the most pessimistic time
- $t_m$  is the most likely time

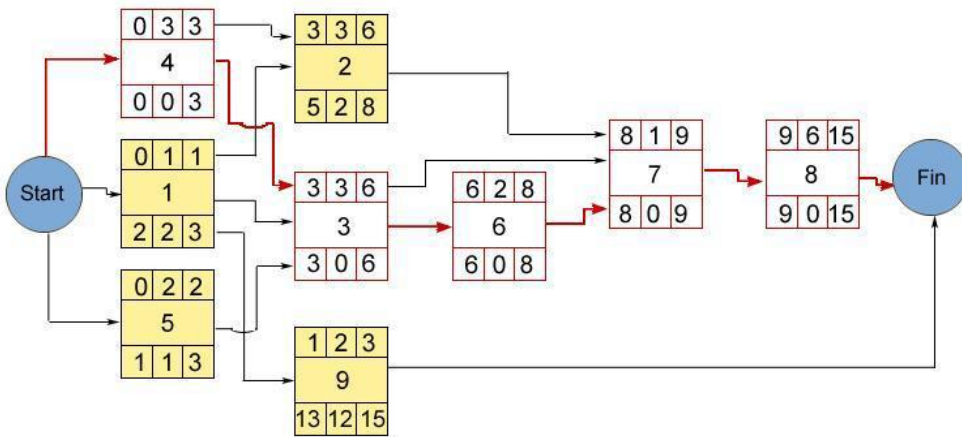
To find the standard deviation of each activity:

$$\sigma_{t_e} = \frac{t_p - t_o}{6}$$

We have the following list of activities:

Activity number	Duration		
	Optimistic	Most likely	Pessimistic
1	1	1	7
2	3	3	3
3	3	3	9
4	1	3	5
5	1	2	3
6	1	2	9
7	1	1	1
8	4	6	8
9	2	2	8

The AON diagram with the most likely duration:



We compute expected time and deviation:

Activity number	Duration				Deviation
	Optimistic	Most likely	Pessimistic	Expected	
1	1	1	7	2	1
2	3	3	3	3	0
3	3	3	9	4	1
4	1	3	5	3	0.7
5	1	2	3	2	0.3
6	1	2	9	3	1.3
7	1	1	1	1	0
8	4	6	8	6	0.7
9	2	2	8	3	1

The AON diagram is done with expected durations:

