

# Short Tutorial on Scheduling and Activity Diagrams

SYSC4106 – Software Economy and Project Management

Lecturer: Dr. Ahmed Raouf

Winter 2023

1. In a project, the following activities have the following info (Time are in days):

Activity	Dependency	Duration	ES	EF	LS	LF	Float
A	NONE	10					
B	A	5					
C	B	15					
D	A	3					
E	A	8					
F	E	20					
G	D	6					
H	C,F,G	10					

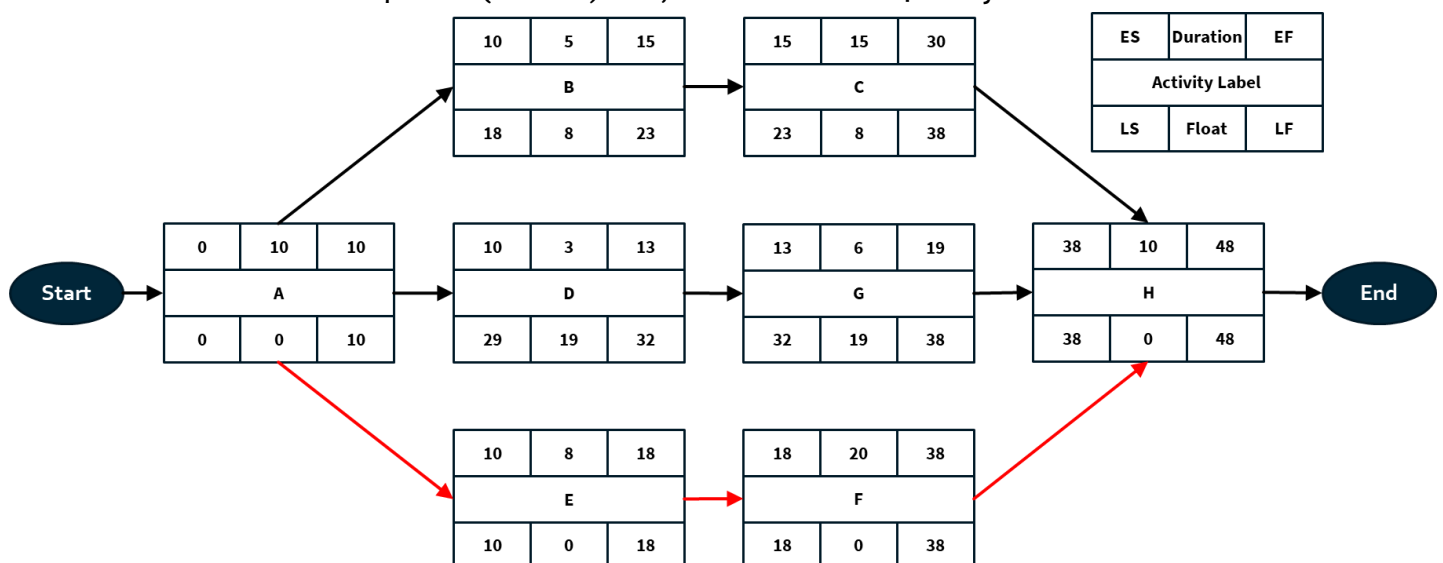
- Complete the table. Use “End of day” which means the earliest start time for activity A is end of day “zero”.
- Draw the activity network.
- What is the critical path and the project duration?

**Answers:**

a.

Activity	Dependency	Duration	ES	EF	LS	LF	Float
A	NONE	10	0	10	0	10	0
B	A	5	10	15	18	23	8
C	B	15	15	30	23	38	8
D	A	3	10	13	29	32	19
E	A	8	10	18	10	18	0
F	E	20	18	38	18	38	0
G	D	6	13	19	32	38	19
H	C,F,G	10	38	48	38	48	0

b. and c. Critical path is (A-E-F-H). Project duration is 48 days.



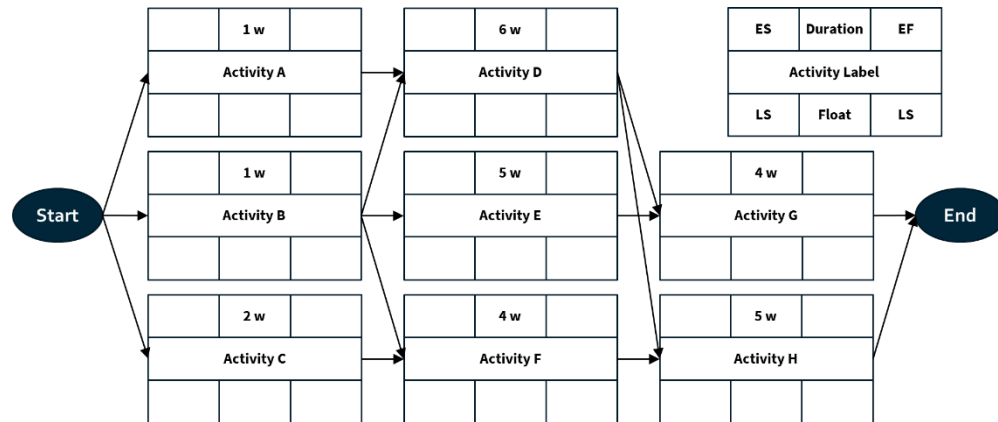
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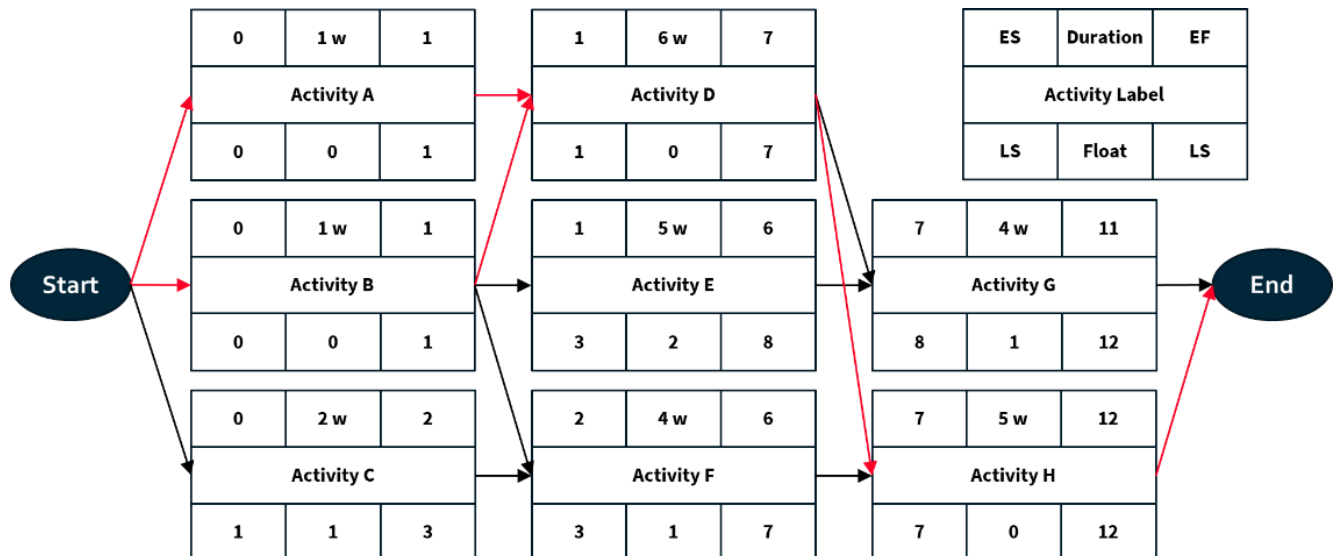
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2. For the following dependency diagram



1. Complete the missing time estimates.
2. What is the project duration?
3. Which path is the critical path(s)?
4. If activity E was delayed by 3 weeks, would the project still be completed by its estimated time? Explain your answer.

Answers:



Project duration = 12 weeks.

There are two critical paths (red arrows): A → D → H and B → D → H.

The project will NOT finish on time (requires an additional week). The reason is that the delay (3 weeks) for activity E exceeds its float time (2 weeks), resulting in activity G starting also beyond its float time (it will have -1 week float time). This path will become overcritical.