

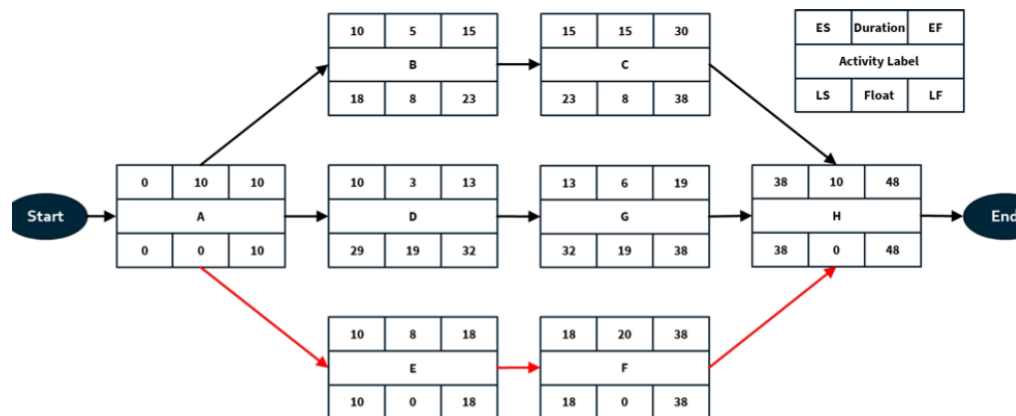
## Tutorial 1

1. In a project, the following activities have the following info (Time are in days):
- a. Complete the table. Use “End of day” which means the earliest start time for activity A is end of day “zero”.

| Activity | Dependency | Duration | ES | EF | LS | LF | ST |
|----------|------------|----------|----|----|----|----|----|
| 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          | 120      | 18 | 38 | 18 | 38 | 0  |
| G        | D          | 6        | 13 | 19 | 32 | 38 | 19 |
| H        | C, F, G    | 10       | 38 | 48 | 38 | 48 | 0  |

a.

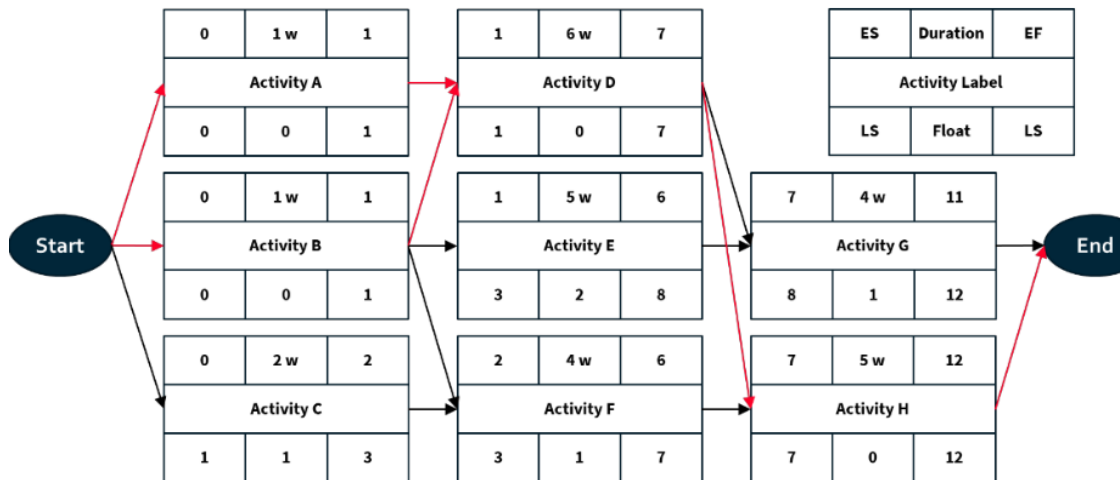
b. Draw the activity network.



c. What is the critical path and the project duration?

Critical path = A, E, F, H & project duration = 48 days

2. For the following dependency diagram:



- Complete the missing time estimates
- What is the project duration  
Project duration = 12 weeks
- Which part is the critical path(s)?  
CP1 = A, D, H and CP2 = B, D, H
- If activity E was delayed by 3 weeks, would the project still be completed by its estimated time  
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 overly critical.