

وزارة التعليم العالي والبحث العلمي  
جامعة نينوى  
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# Software Engineering Tools

Can Pert Charts represent  
waterfall methodology?

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## What is the Waterfall methodology?

Sequential design process for project management, there's no chance for changes or errors, so the project outcome and a detailed plan must be set in the beginning.

## What is the Pert chart?

(Program Evaluation and Review Technique) used before a project begins to plan and determine the duration of each task and for showing whether certain tasks need to be completed in order or whether they can be completed simultaneously.

## What is the Gantt chart?

Diagram that is a project management tool for workflow visualization. It shows tasks, duration of tasks, time overlap of tasks and timelines and offer more options if a plan changes at any point along the way.

## Pert Charts vs Gantt chart:

PERT charts:

display tasks in a network diagram, shows the sequence and dependencies between tasks, does not show which tasks can be done in parallel. It allows to set up terms and always stick to them, track which tasks completion affects the project realization on time.

Gantt charts:

The diagram consists of two axes: a Vertical one. It represents a list of tasks that your team has to complete to get a project done. And a Horizontal one. It is a plan's timeline, where bars with tasks are situated in chronological order.

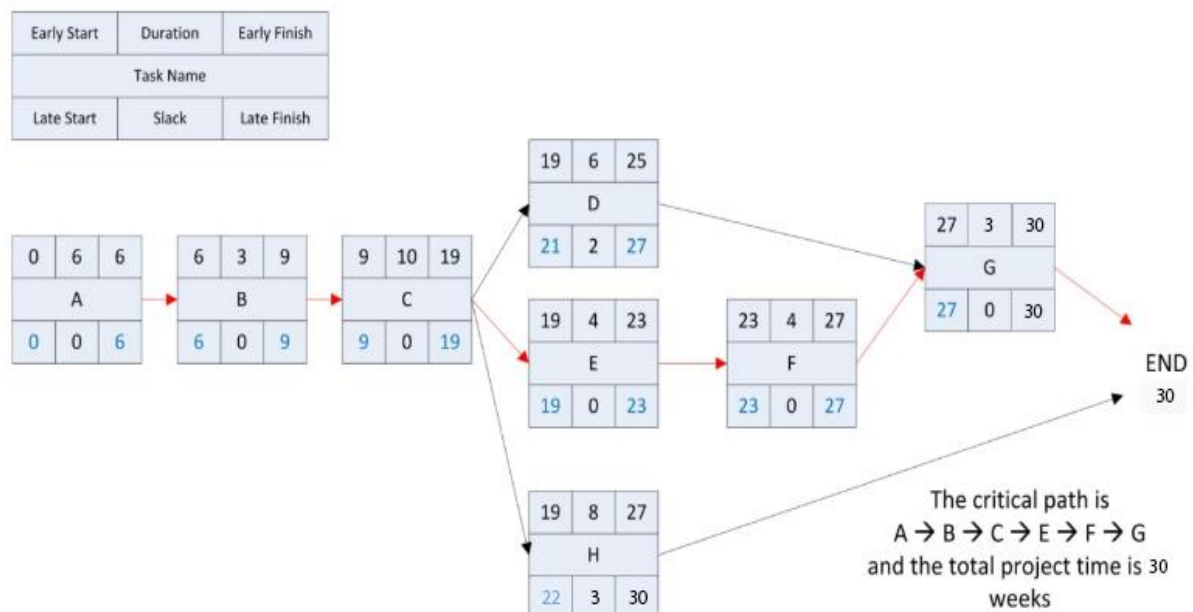
## Can we use the Pert Charts to represent Waterfall methodology?

Yes, we can use the Pert Charts to represent and visualize Waterfall methodology.

### Example:

Task Identifier	Task Description	Predecessor Task(s)	Optimistic Time (O)	Most Likely Time (M)	Pessimistic Time (P)	Expected Time ( $T_E$ )
A	Establish project		4	5	12	6
B	Establish customer requirements	A	2	3	4	3
C	Produce software specification documents	B	6	8	22	10
D	Write test plans	C	4	6	8	6
E	Write code	C	3	4	5	4
F	Developer testing	E	2	4	6	4
G	System testing	D, F	2	3	4	3
H	Write manuals	C	5	7	15	8

Pert chart:



Gantt chart:

