CSE4708: Software Project Management

Unit III : Activity Planning & Risk Management

Topic:

Network Planning Model – Precedence Diagram Method

Name: Manka Sharma

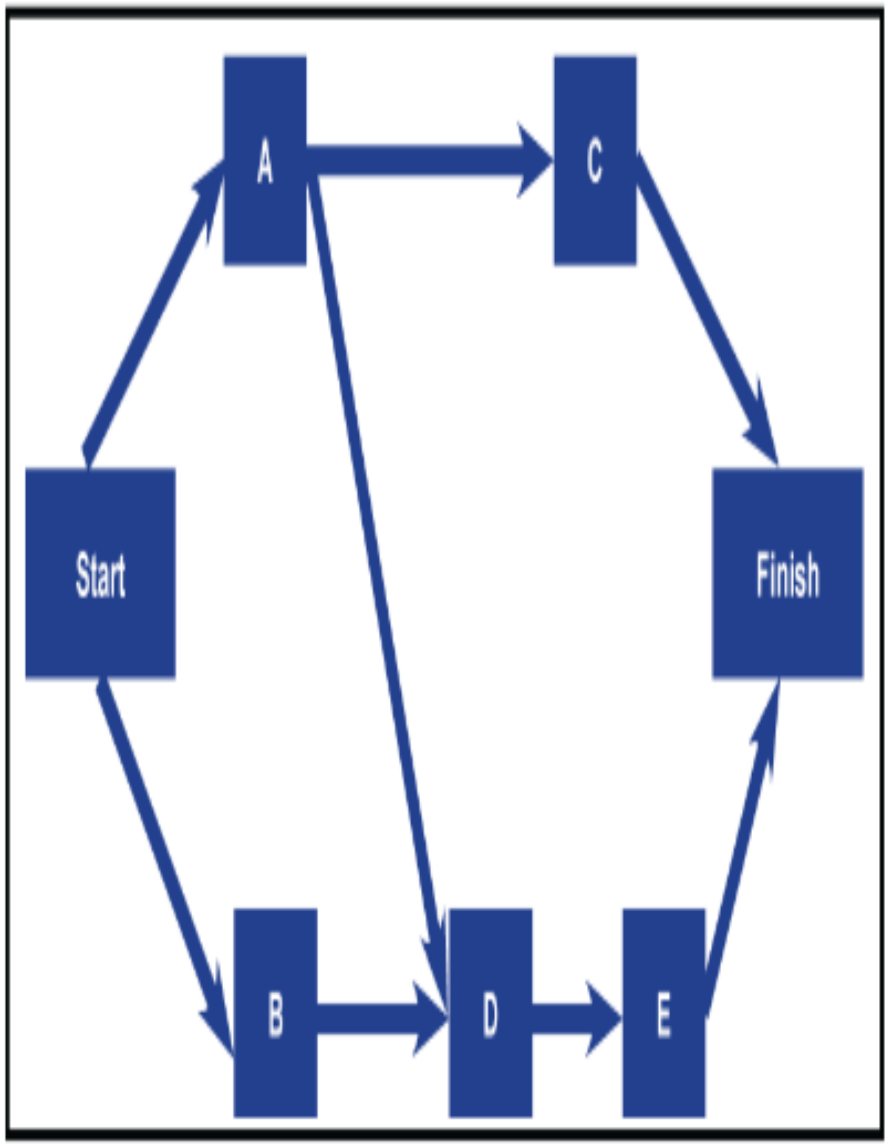
Delivered on: 14th October 2020

Precedence Diagramming Method

Precedence Diagramming Method

- **Precedence Diagramming Method (PDM)** is a strategy for developing a project schedule network diagram that utilizes nodes to represent activities and associates them with the dependencies.
- This method is likewise called the activity-on-node (AON).
- The project team utilizes a schedule network diagramming procedure to graphically represent any acknowledged and preexisting schedule activities through the utilization of nodes.

Precedence Diagramming Method



Precedence Diagramming Method

- The most significant advantage of using the Precedence Diagramming Method is that it quickly allows the project team to understand all the scheduled activities and its affiliates with each other.

Precedence Diagramming Method

- To build the Precedence Diagramming Method (PDM) the preliminary step in planning is to work on the Work Breakdown Structure.
- The entire project becomes more comfortable when it is broken down the tasks to perform the activities.
- Knowing the capacities that it is fundamental to finish the assignment on time, therefore it is required to know in the order in which the project should be completed.
- To do this, we need to create a Precedence Diagram.

Precedence Diagramming Method

Below mentioned are a few steps that articulate on creating a Precedence Diagram:

- Ensure that you have a whiteboard or flip-chart papers to draw your plan
- Put the top deliverable from your work breakdown structure on to the right-hand side of the board or paper
- Take each of the lowest level and post-it from your breakdown structure and arrange them in the order in which they need to happen.
- Work from the left until you have the dependencies between the tasks and you have a sequence of functions running from left to right.

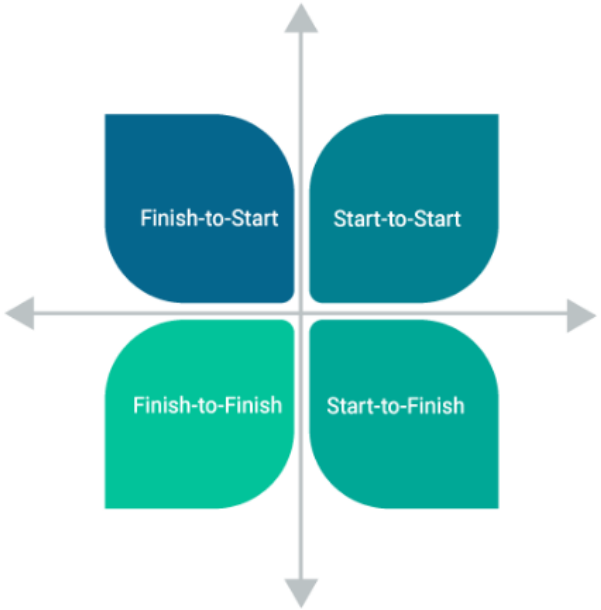
Precedence Diagramming Method

- The emphasis here is on the project sequence.
- Come across additional tasks that have to be performed, and henceforth those need to be incorporated in the precedence diagram and to the work breakdown structure.

Precedence Diagramming Method

Types of Precedence Diagramming Method Relationships

- With the precedence diagramming method, four types of relationships are used in the activities to complete the network diagram of a project. They are:



Precedence Diagramming Method

- **Finish-to-Start (FS)** is the most common dependency type used between activities. Activity can't begin before a predecessor activity completes. At that point, a Finish-to-Start dependency needs to be present between these exercises.
- **Start-to-Start (SS)** is a kind of dependency shows that two activities determine to start together.
- **Finish-to-Finish (FF)** in a project illustrates that two activities in a project determine to finish together.
- **Start-to-Finish (SF)**, a unique type of dependency on projects, it can be utilized instantly along with the supply chain materials for instance. In this type of dependency, Activity B can finish only after Activity A starts.

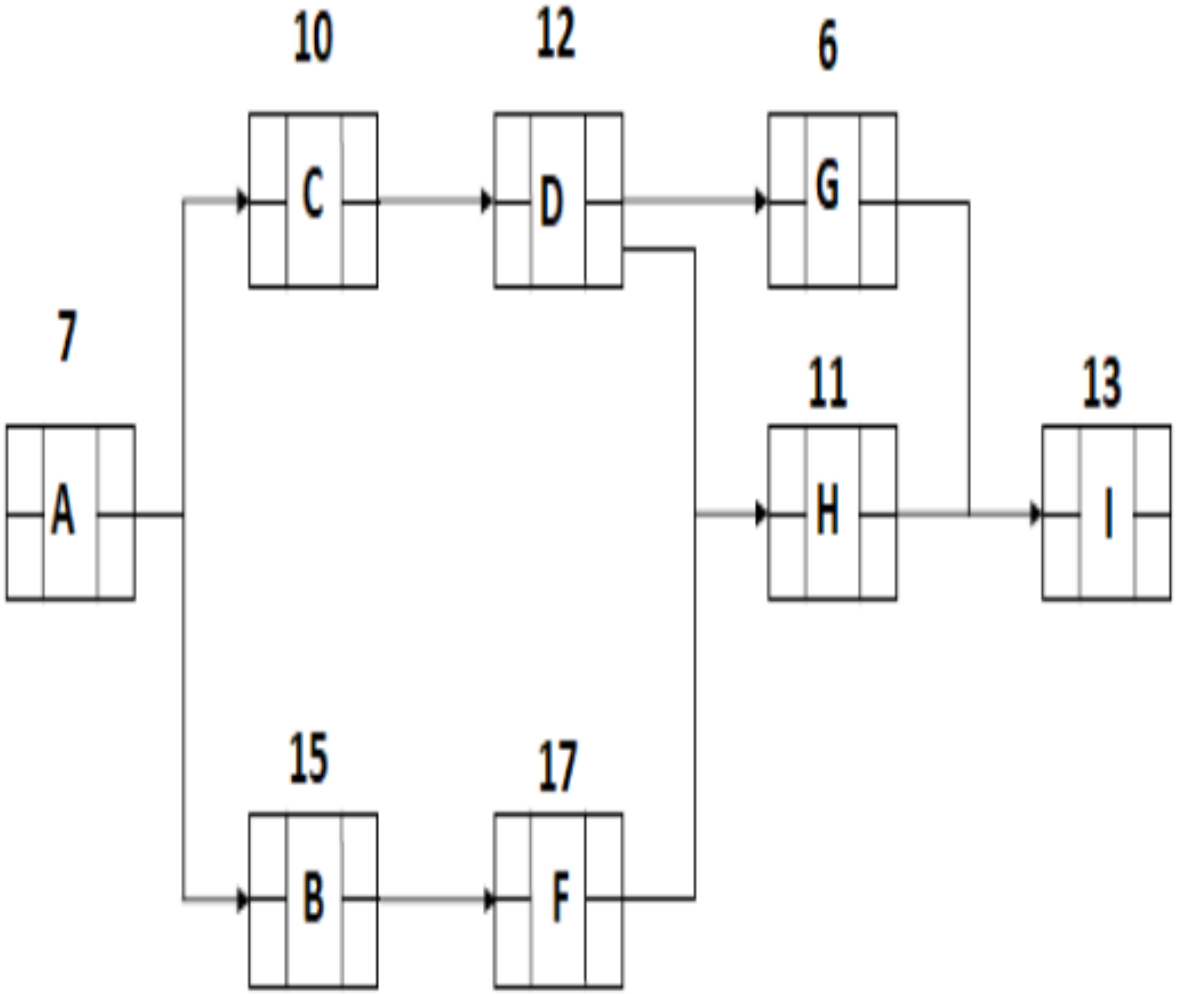
Precedence Diagramming Method

Types of Dependencies in Precedence Diagramming Method

- **Mandatory Dependency** is known as hard logic is an integral part of the work. For instance, if you're working on a project, you cannot test a screen that is yet to be developed entirely in the project. Consequently, in this case, there is a mandatory dependency between the development and testing of the screen.
- **Discretionary Dependency** also referred to as preferential or soft logic is controlled by the project team and can be changed to abbreviate the project. In this technique, activities stay the same, yet, the order changes.
- **External Dependency** comes from outside of the project — for instance, a government regulation expected to finish before proceeding with the outstanding of the project activities.
- **Internal dependency** is a method that involves a precedence relationship between project activities. For instance, if there are activities appointed to a member of the project team, he can't begin to work on that until the previous project finishes even though there is not a mandatory dependency.

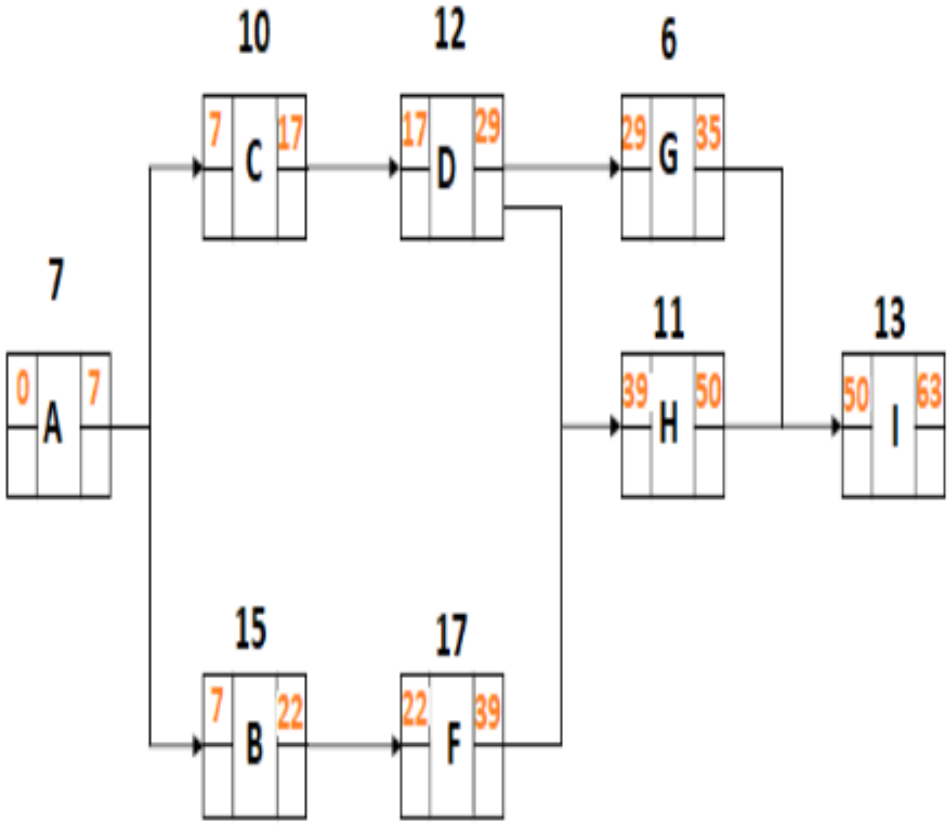
Precedence Diagramming Method

Example of Precedence Diagramming Method

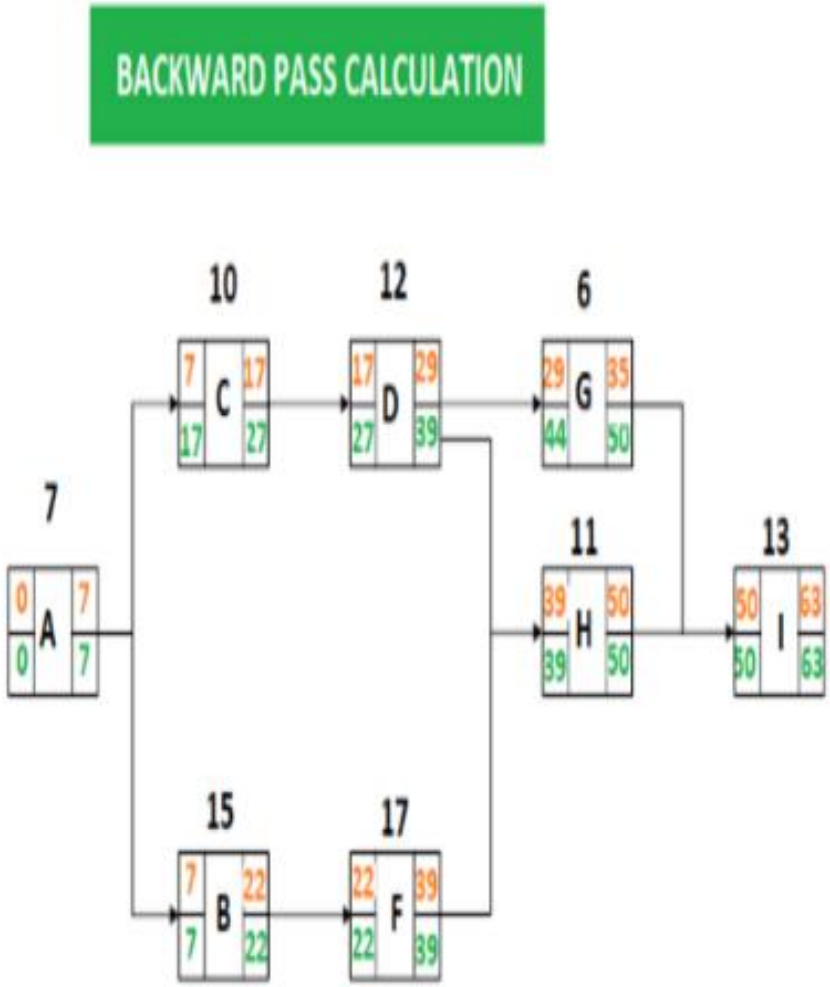


Precedence Diagramming Method

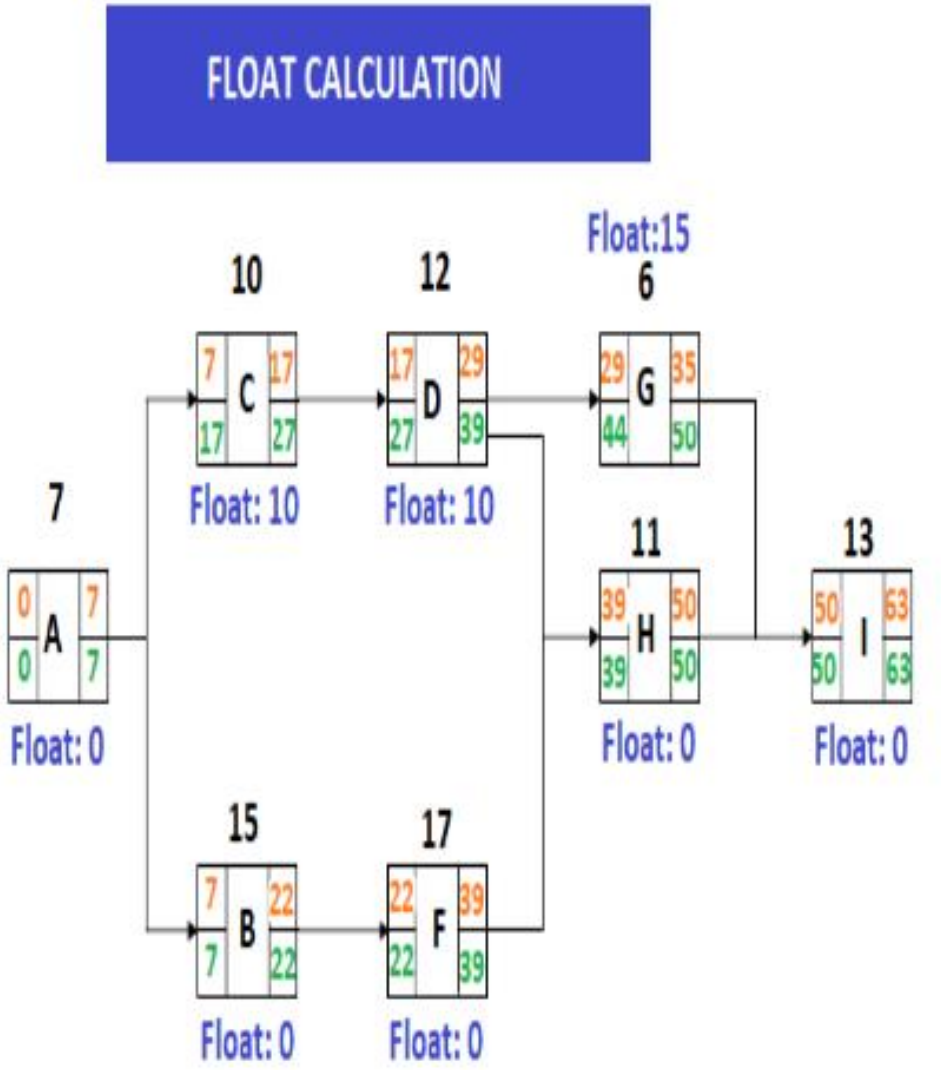
FORWARD PASS CALCULATION



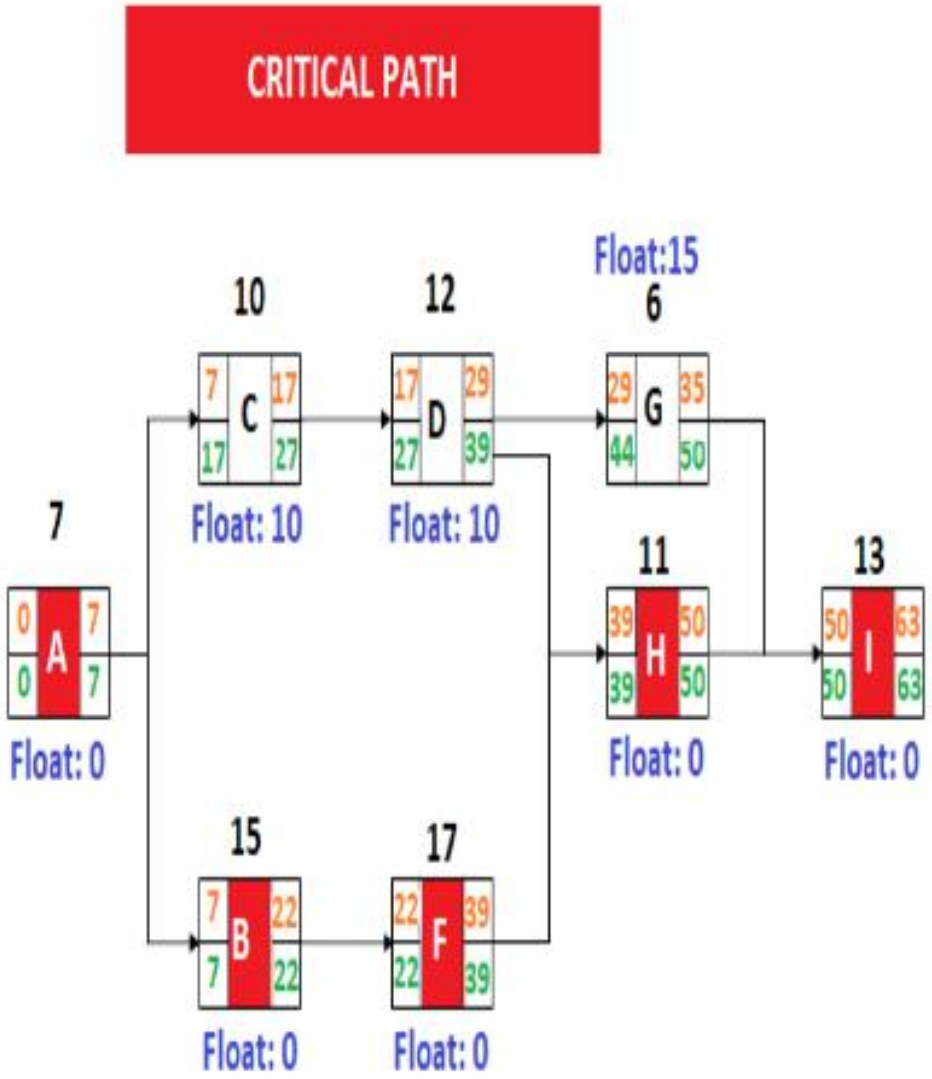
Precedence Diagramming Method



Precedence Diagramming Method



Precedence Diagramming Method



Recommended Reading

- Pressman, Roger S., “Software Engineering – A practitioner’s Approach”, “Chapter -7: Project Scheduling and Tracking”, 5th edition.