

# **SITE PRODUCTION AND PROJECT MANAGEMENT**

## **9 PROGRAMMING Network Diagrams**

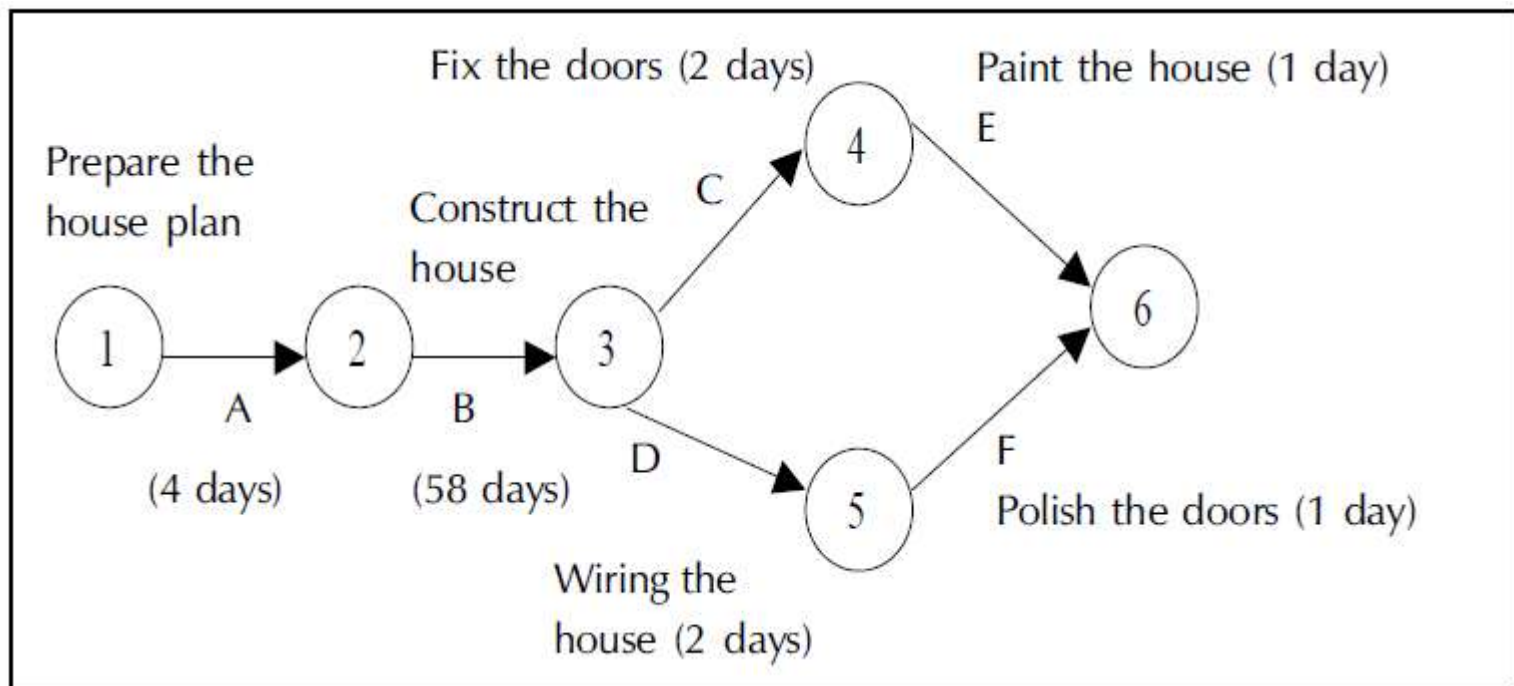
**Juan Antonio Ferriz Papí**



## NETWORK DIAGRAMS

Visual representation of network interdependence

Show activities and relationships





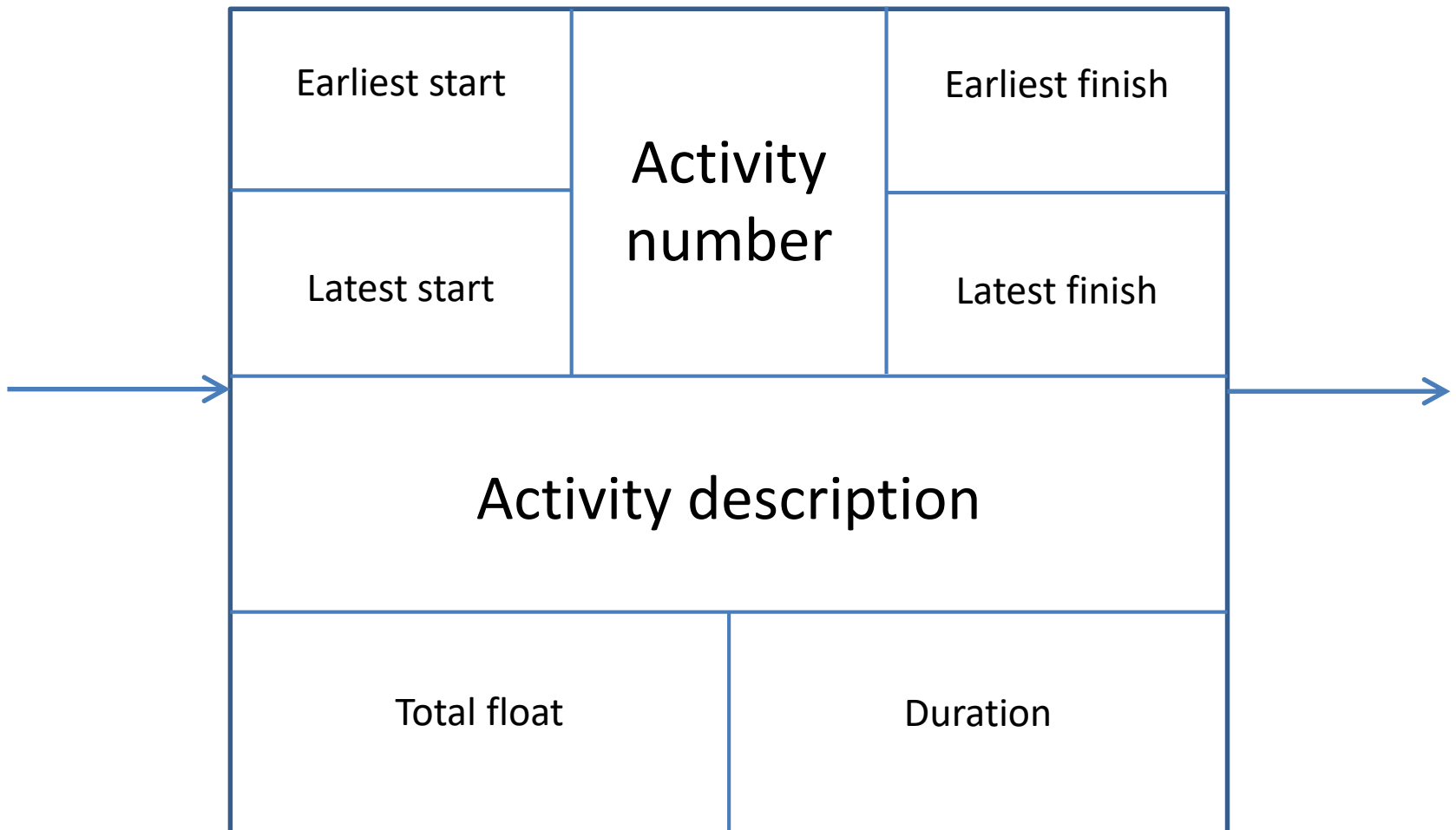
## NETWORK DIAGRAMS

For construction programming:

- Preceding diagrams
  - Boxes with activities
  - Relationships with arrows
- Arrow diagrams
  - Boxes are start/finish activity
  - Activities with arrows

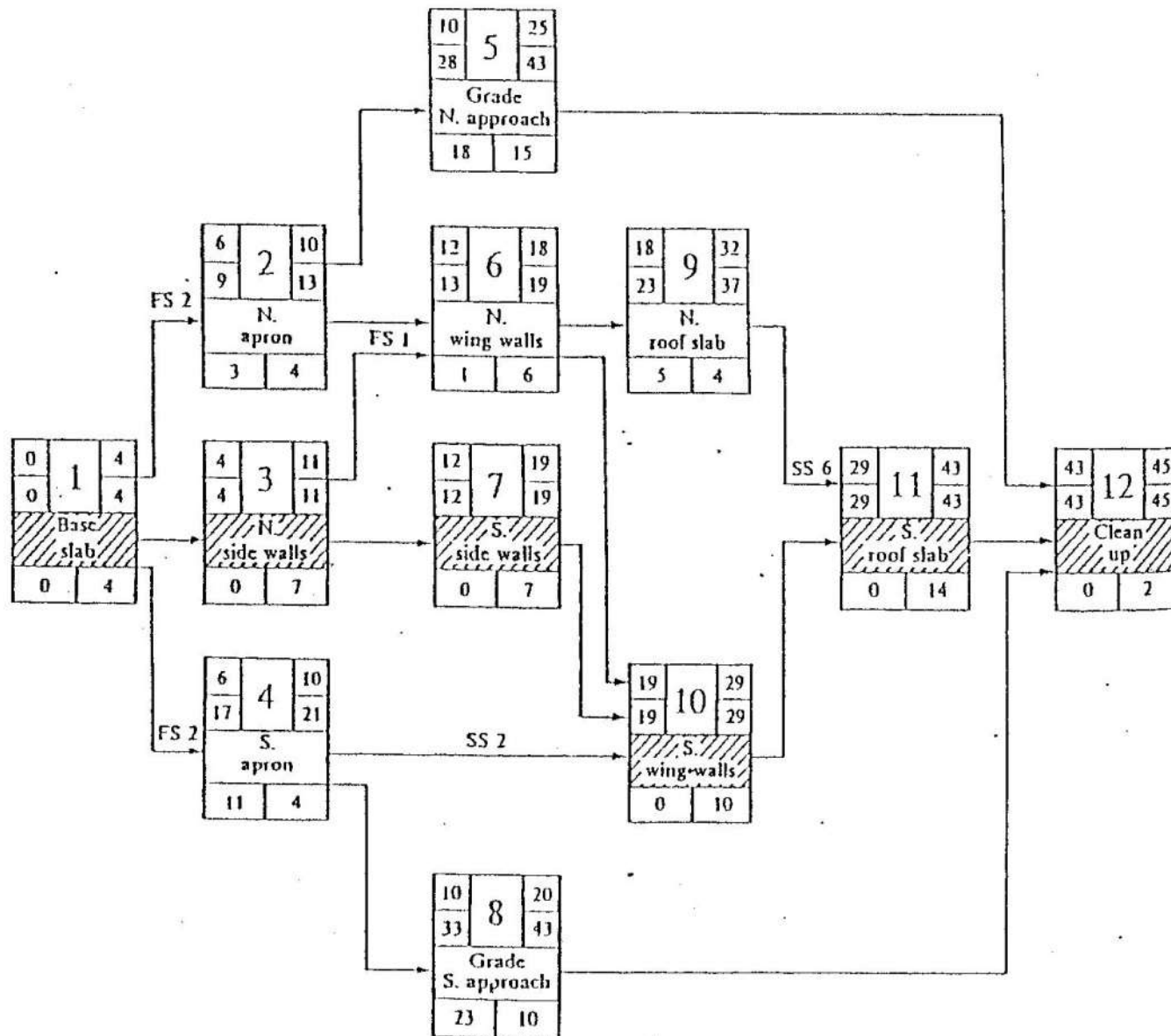


## PRECEDING DIAGRAMS



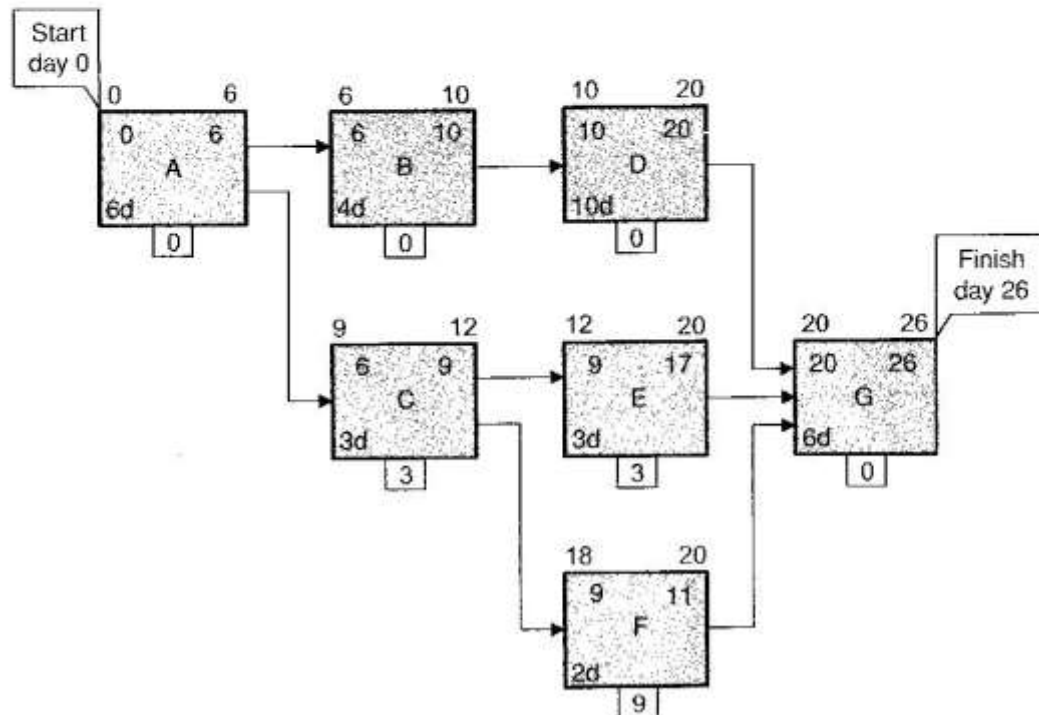
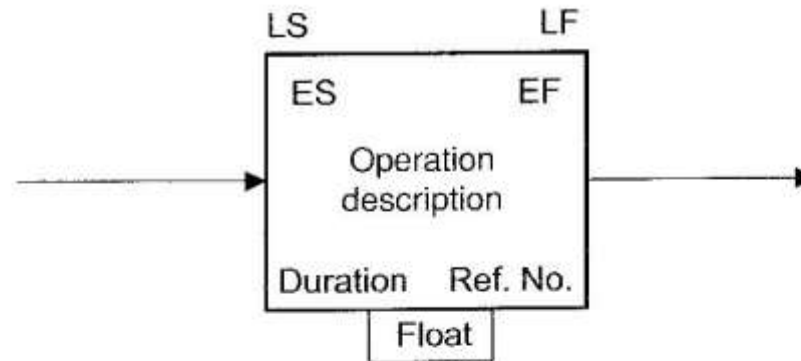


## PRECEDING DIAGRAMS



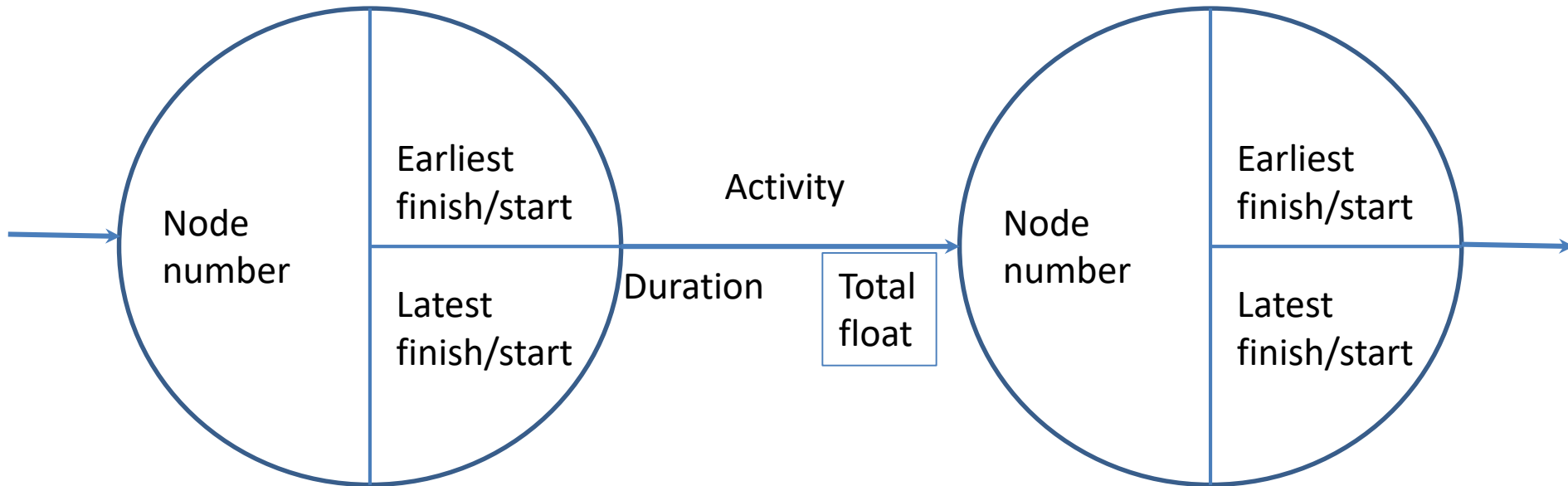


### PRECEDING DIAGRAMS



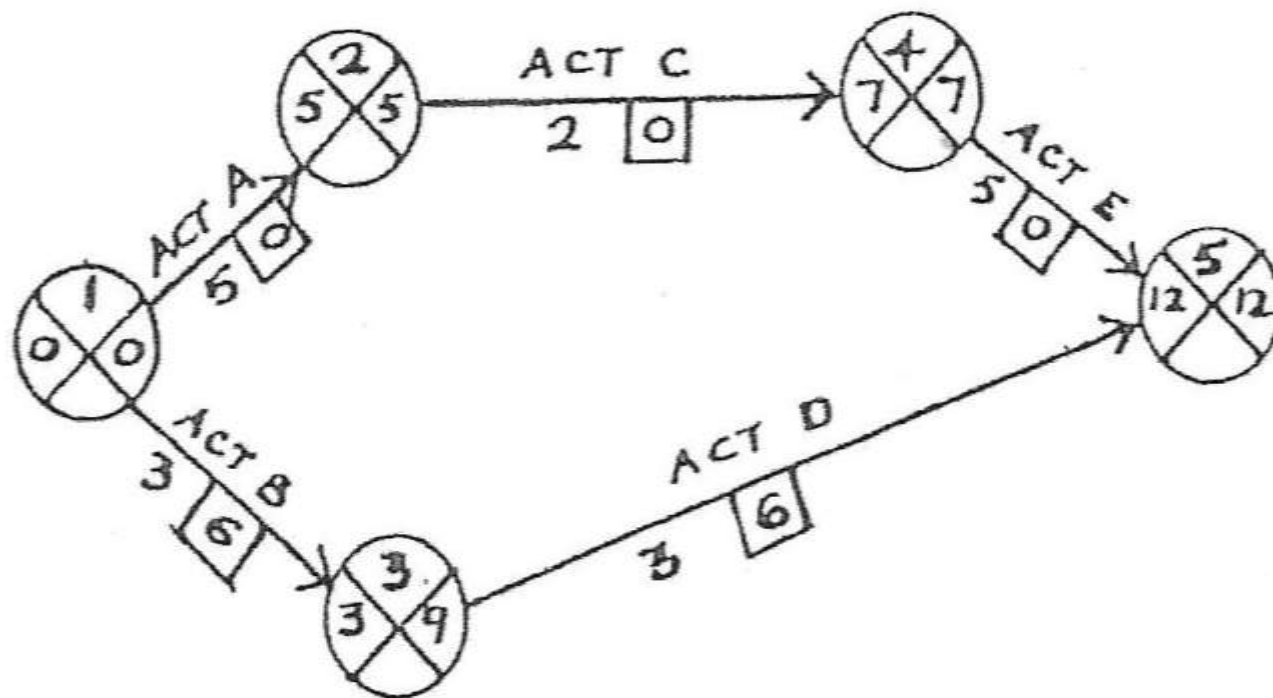


## ARROW DIAGRAMS





## ARROW DIAGRAMS

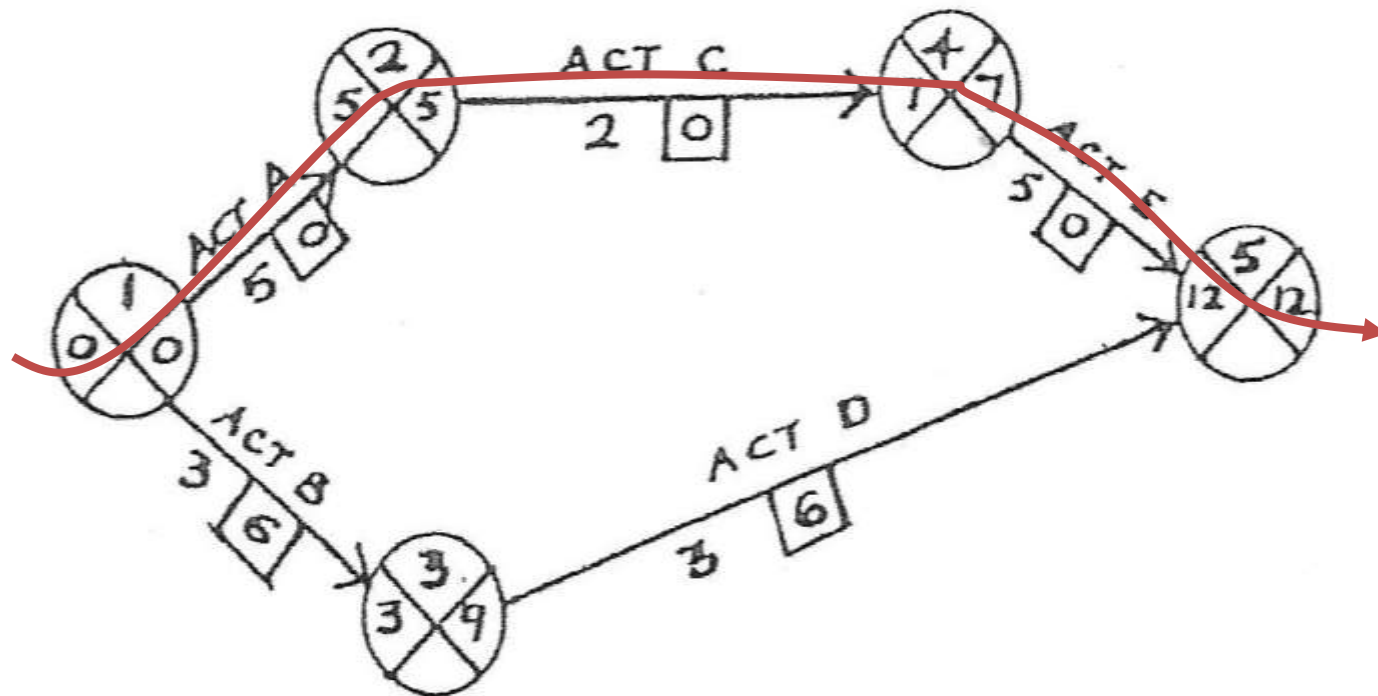




## ARROW DIAGRAMS

### Critical Path

The path in which activities have zero float

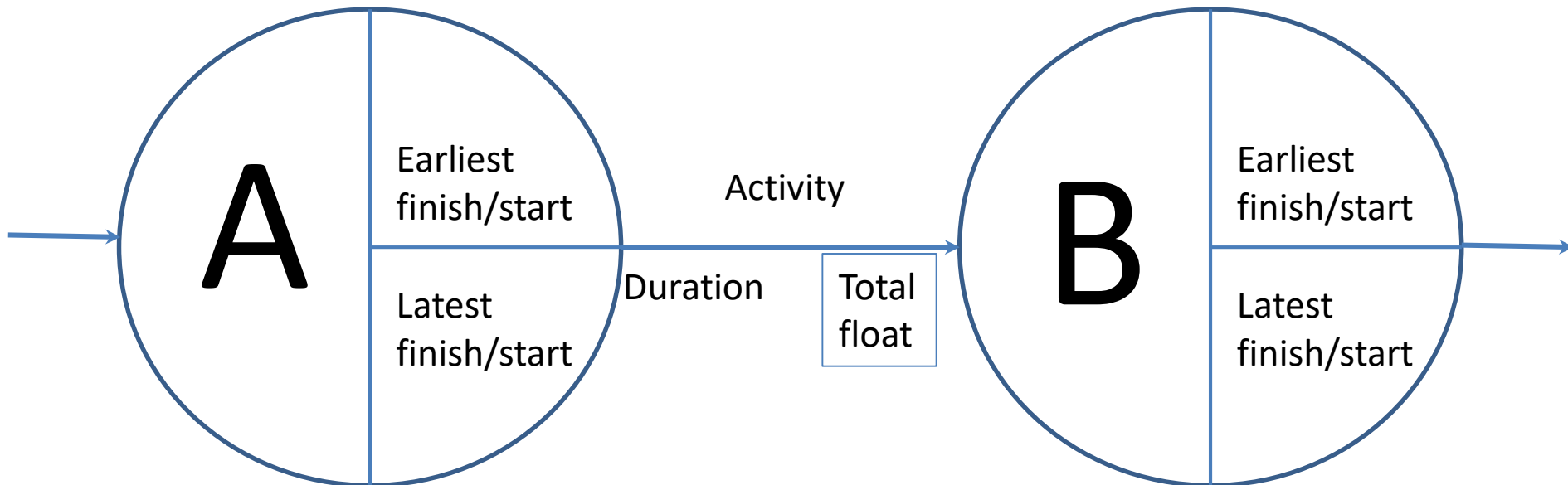




## ARROW DIAGRAMS

How to calculate the total float for an activity

$$\text{Total float} = (LF - ES) - \text{Duration}$$

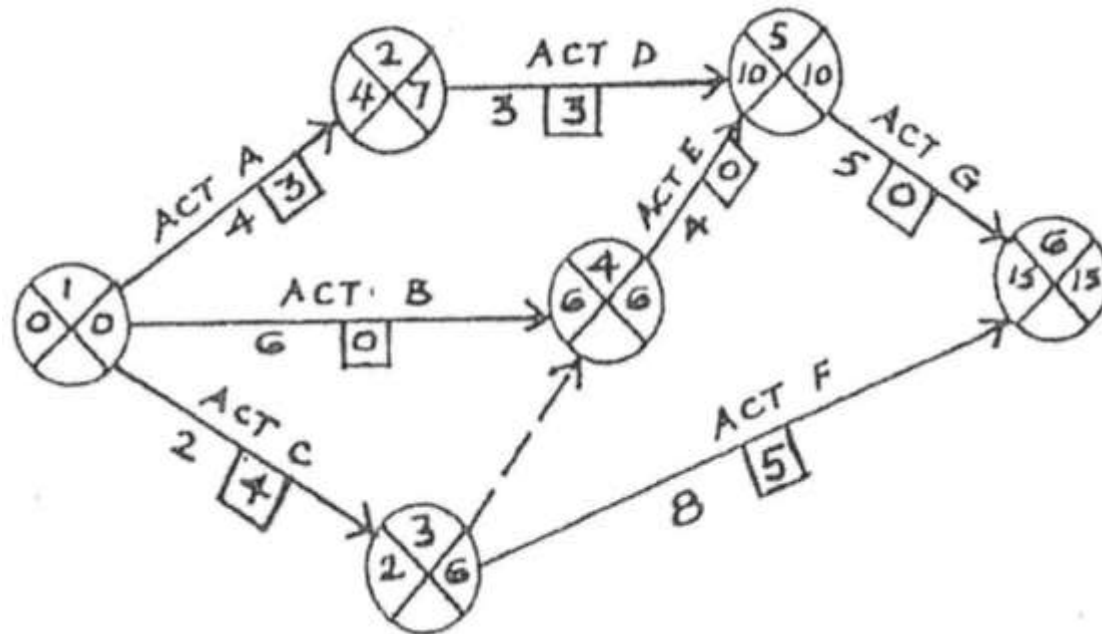




## ARROW DIAGRAMS

### Muddy relationships

They don't have any duration. Only express relationship.





## NETWORK DIAGRAMS

### Procedure when making a network diagram

1. Prepare a list of activities in the sequence of construction
2. Assess the duration of each activity
3. Draft the network diagram
4. Enter the required data
5. Calculate earliest start for each activity (left to right)
6. Calculate latest finish for each activity (right to left)
7. Calculate the float
8. Identify the critical path