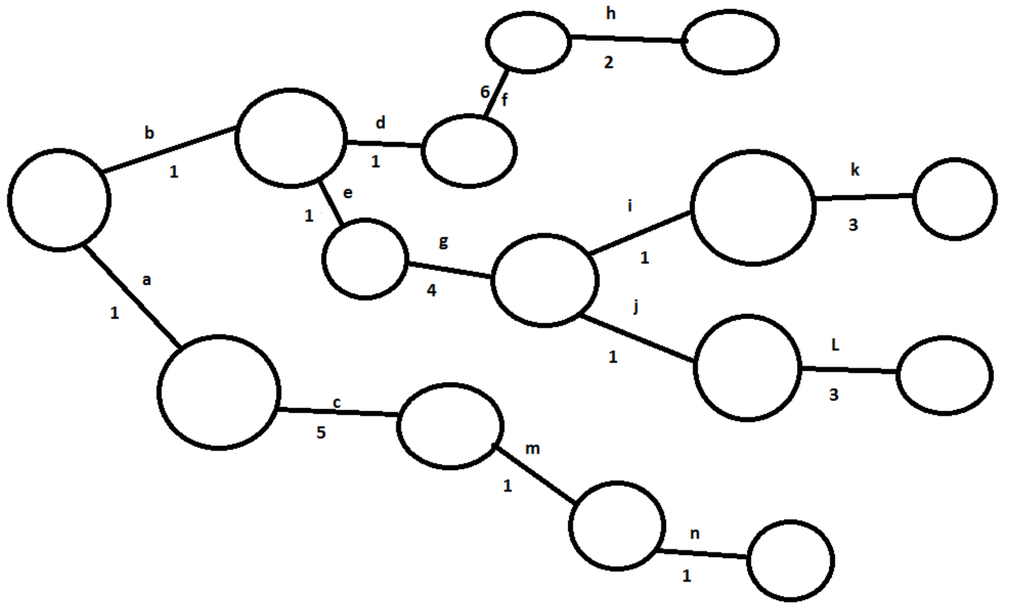
NETWORK DIAGRAMS

- Visualize Schedule
- Earliest Completion Date
- Latest Completion Date
- Dependencies
- Durations
- Determine the Critical Path



LONGEST TOTAL DURATION

ACTIVITIES CANNOT BE DELAYED

SHORTEST PROJECT TIME

USE NETWORK DIAGRAM TO DETERMINE CRITICAL PATH

CRITICAL PATH

CRITICAL PATH

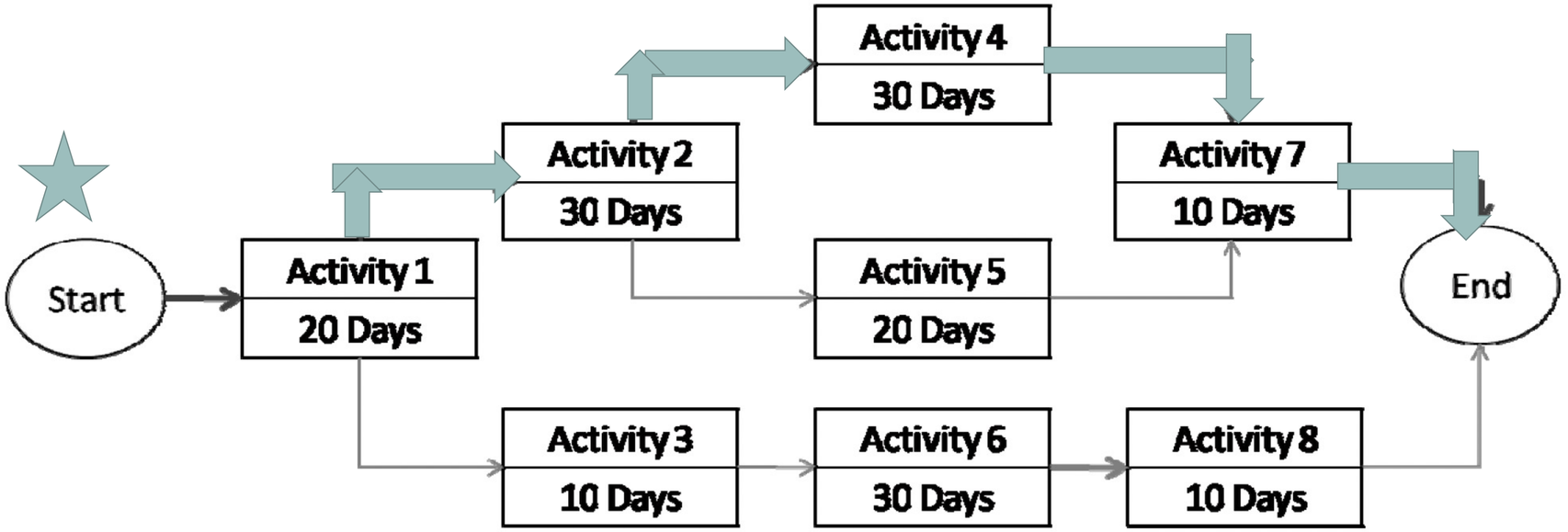
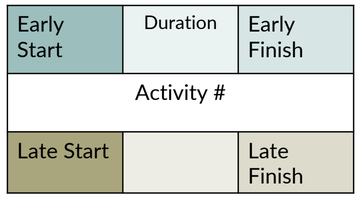


Figure Project network diagram

Critical Path = Activity 1, Activity 2, Activity 4, Activity 7
= 20 days + 30 days + 30 days + 10 days = 90 days

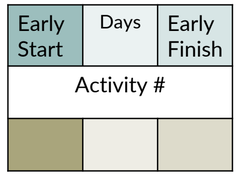
ACTIVITY	PREDECESSOR	DURATION
Start	None	0
1	Start	20
2	1	30
3	1	10
4	2	30
5	2	20
6	3	30
7	4,5	10
8	6	10
End	7,8	0



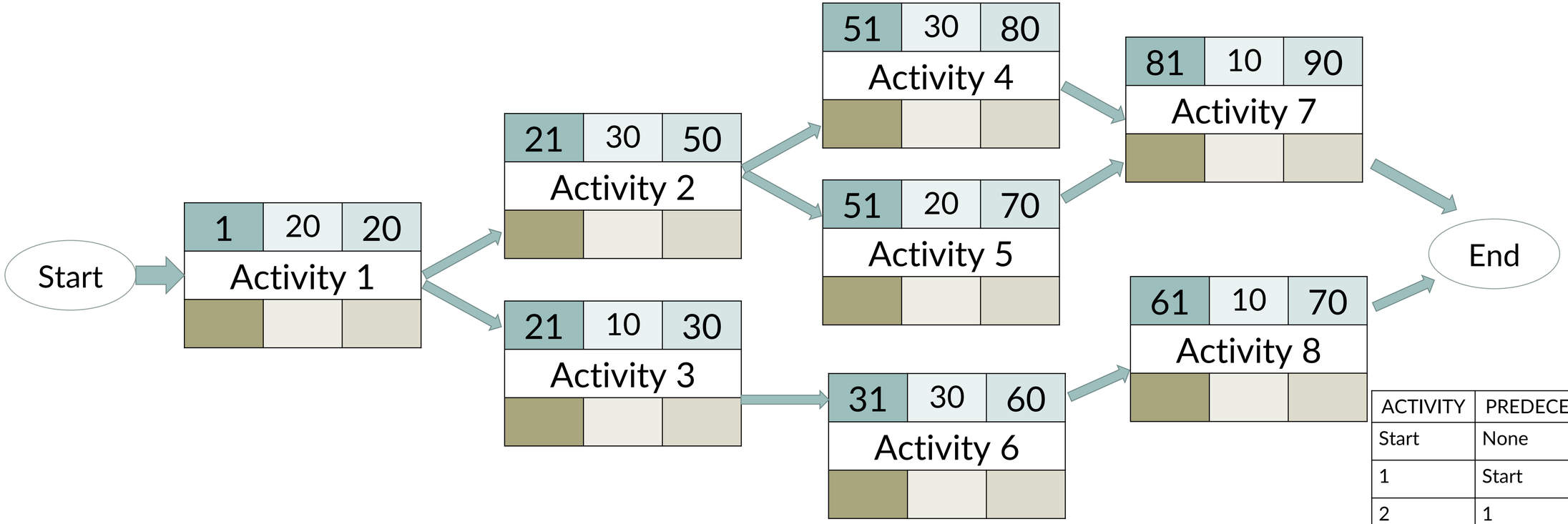
ACTIVITY	PREDECESSOR	DURATION
Start	None	0
1	Start	20
2	1	30
3	1	10
4	2	30
5	2	20
6	3	30
7	4,5	10
8	6	10
End	7,8	0

FLOAT

The amount of time an activity can be delayed without delaying the entire project's finish date

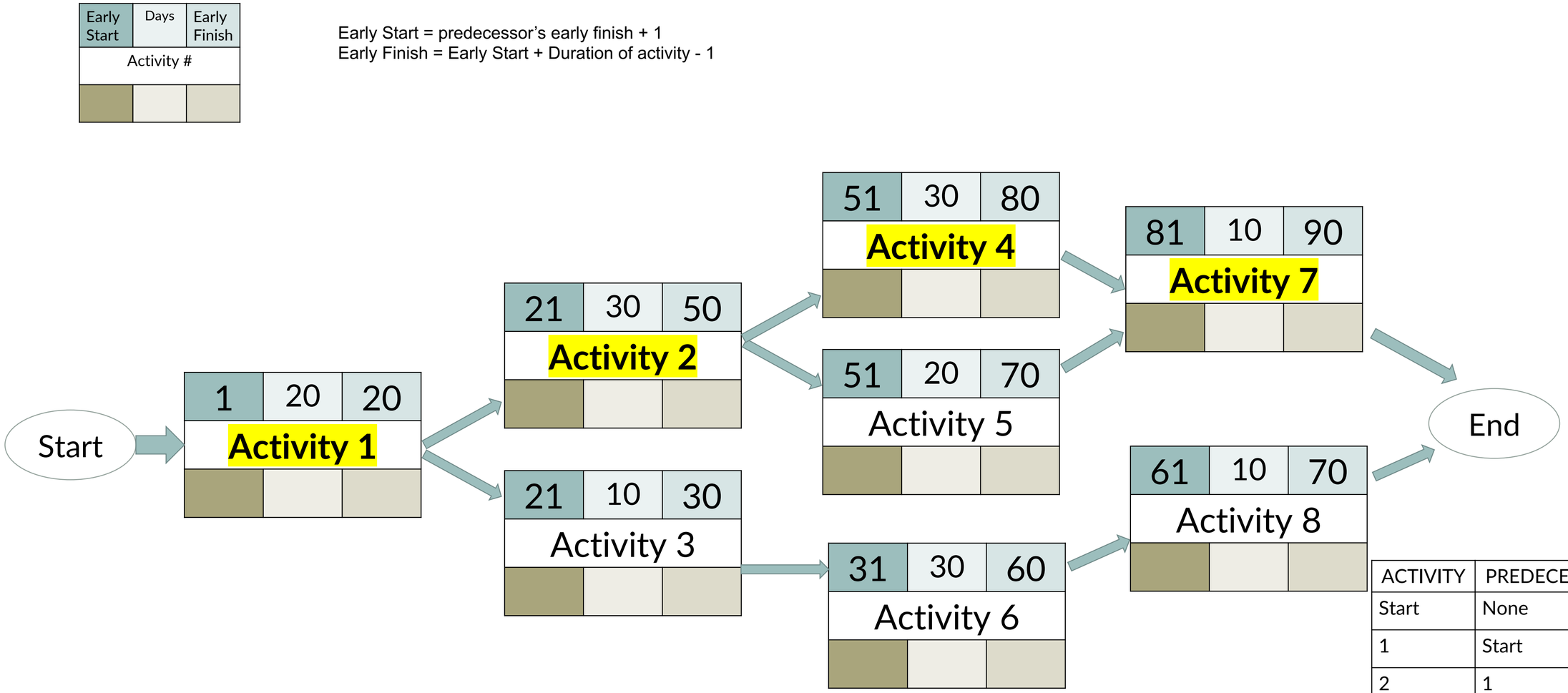


Early Start = predecessor's early finish + 1
Early Finish = Early Start + Duration of activity - 1



ACTIVITY	PREDECESSOR	DURATION
Start	None	0
1	Start	20
2	1	30
3	1	10
4	2	30
5	2	20
6	3	30
7	4,5	10
8	6	10
End	7,8	0

Forward Pass



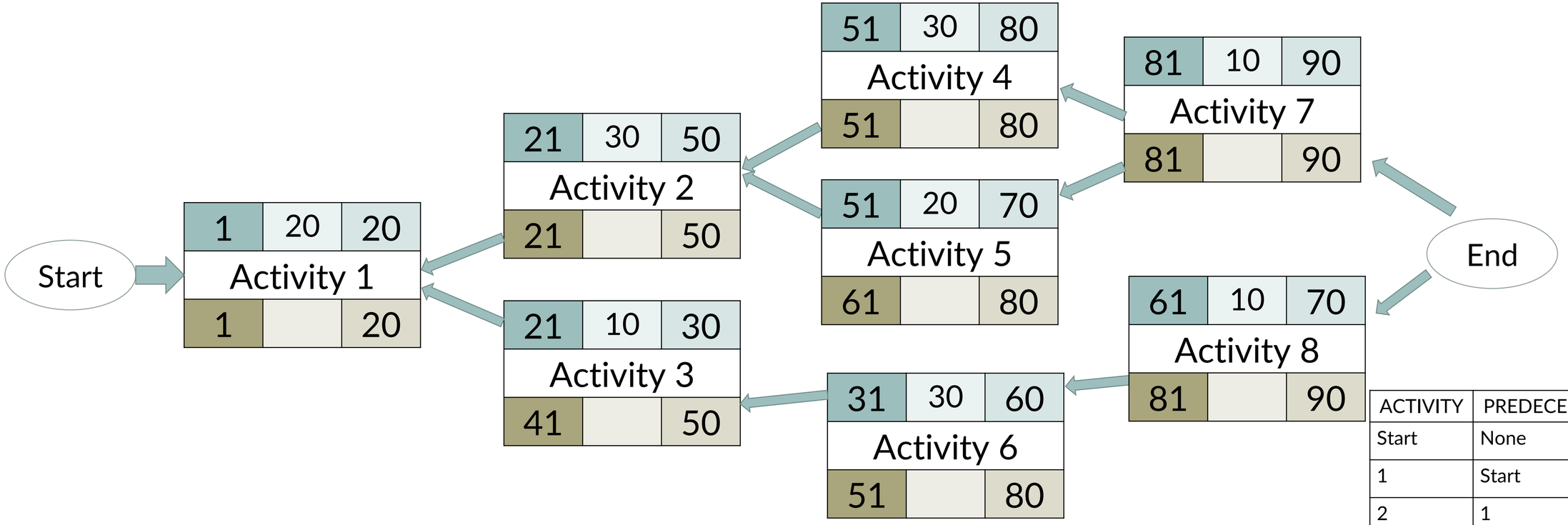
ACTIVITY	PREDECESSOR	DURATION
Start	None	0
1	Start	20
2	1	30
3	1	10
4	2	30
5	2	20
6	3	30
7	4,5	10
8	6	10
End	7,8	0

Critical Path

Early Start	Days	Early Finish
Activity #		
Late Start		Late Finish

Early Start = predecessor's early finish + 1
Early Finish = Early Start + Duration of activity – 1

Late Finish = Late start of next activity -1
Late Start = Late Finish – Duration of activity +1



ACTIVITY	PREDECESSOR	DURATION
Start	None	0
1	Start	20
2	1	30
3	1	10
4	2	30
5	2	20
6	3	30
7	4,5	10
8	6	10
End	7,8	0

Backward Pass

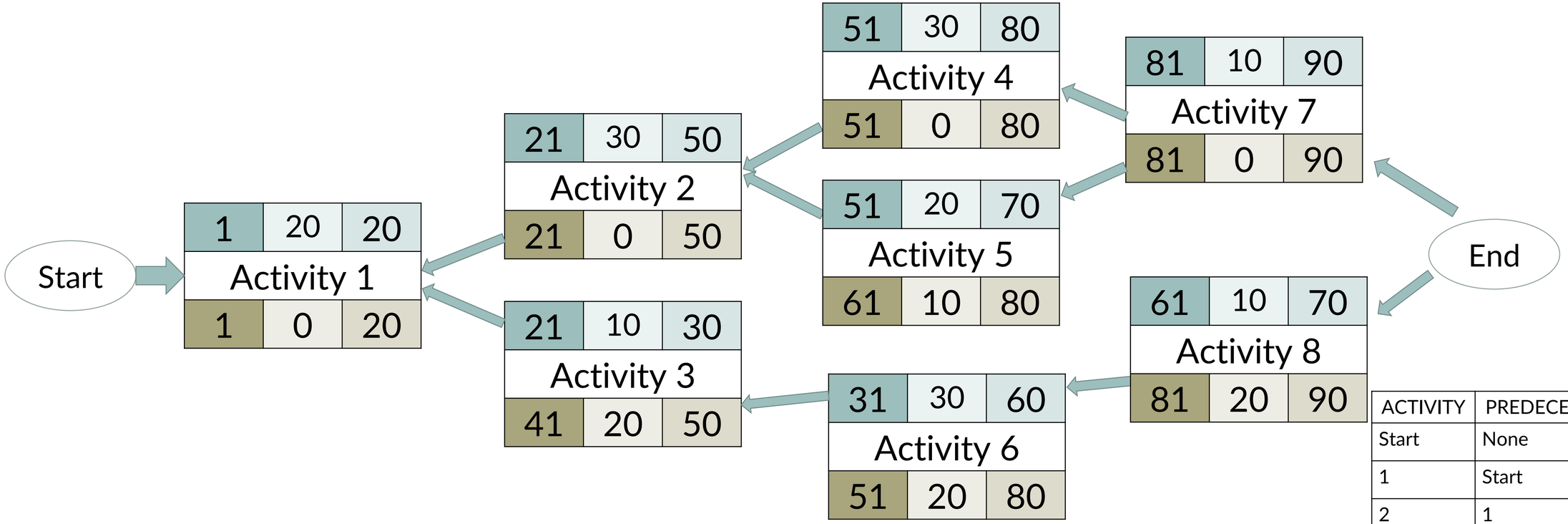
Early Start	Days	Early Finish
Activity #		
Late Start	Float	Late Finish

Early Start = predecessor's early finish + 1
Early Finish = Early Start + Duration of activity – 1

Late Finish = Late start of next activity -1
Late Start = Late Finish – Duration of activity +1

Float = LF – EF or LS - ES

All activities on the critical path will have 0 float



ACTIVITY	PREDECESSOR	DURATION
Start	None	0
1	Start	20
2	1	30
3	1	10
4	2	30
5	2	20
6	3	30
7	4,5	10
8	6	10
End	7,8	0

Float = either Late Finish - Early Finish
or Late Start – Early Start

Float

The amount of time an activity can be delayed without delaying the entire project's finish date