

Project Planning & Control

Lesson 2

Example 4, Usage of Floats for Project Decisions

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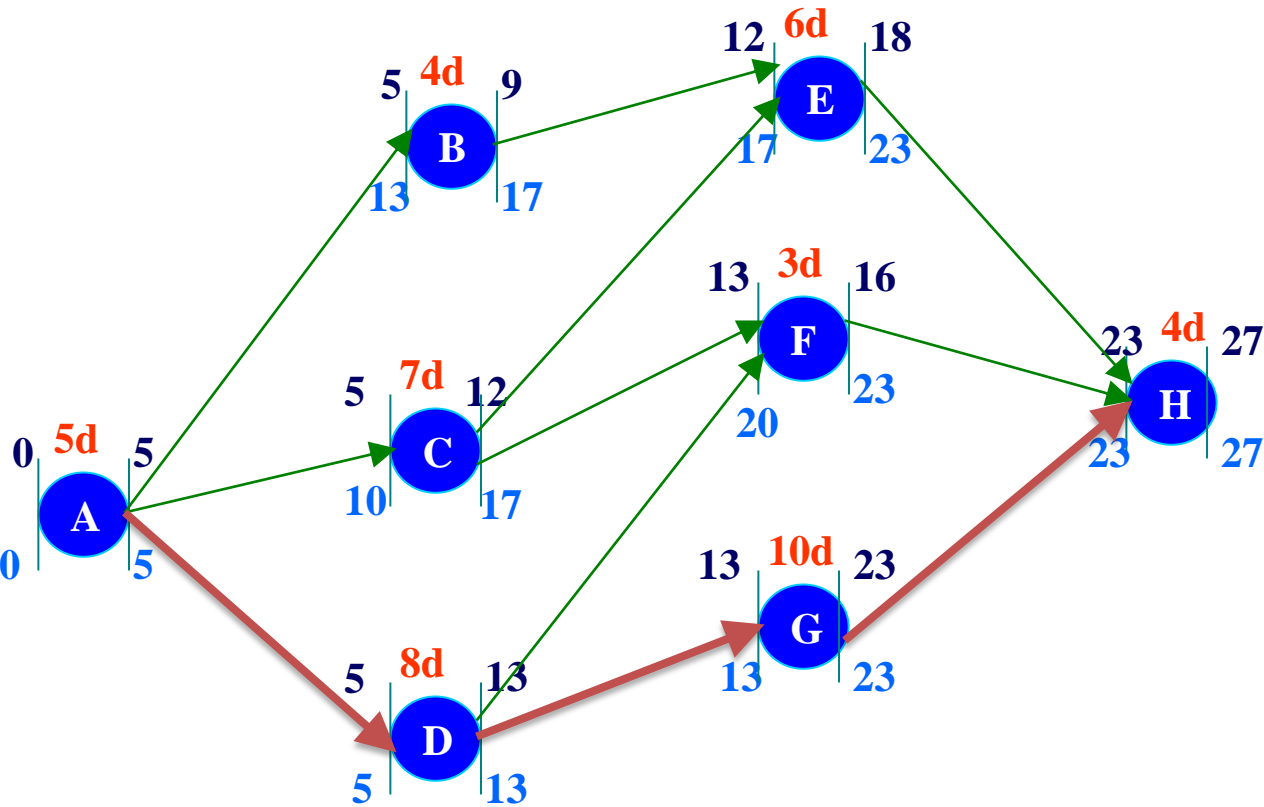
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EXAMPLE-4

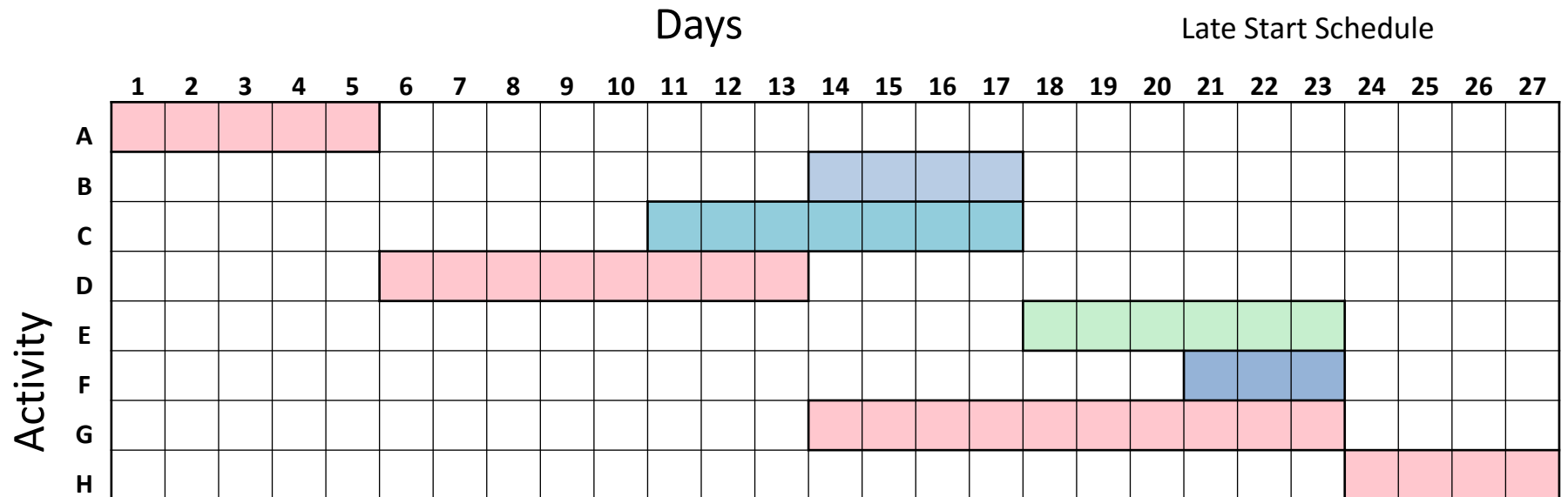
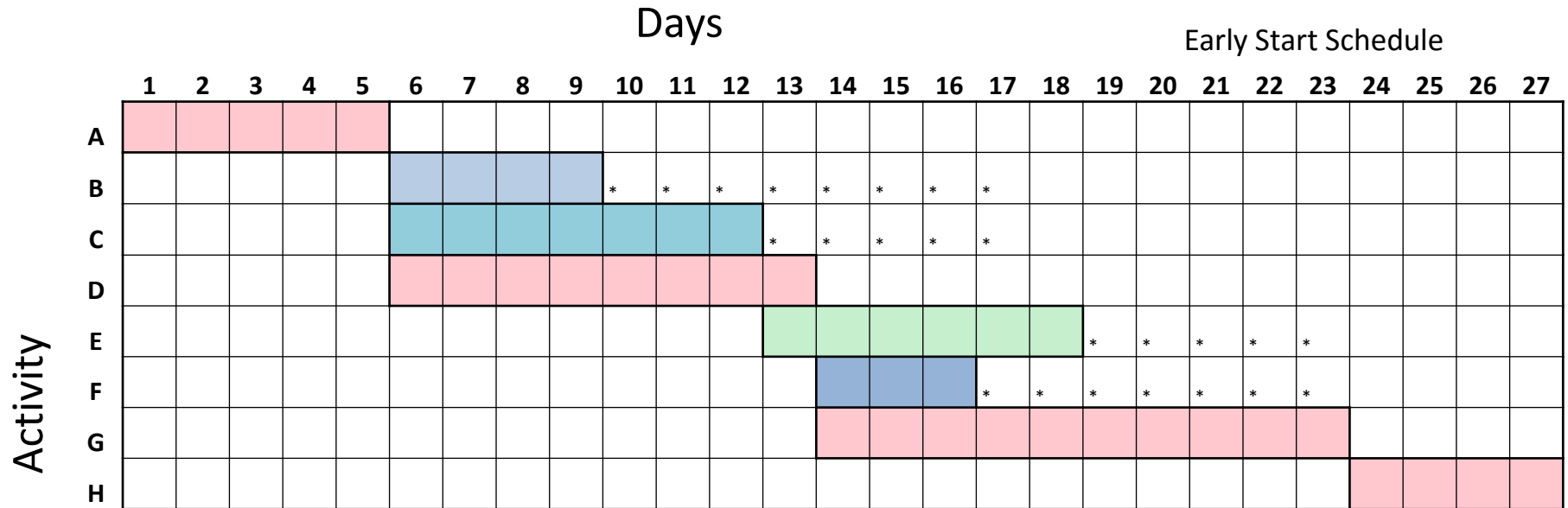
FORWARD PASS



BACKWARD PASS

Activity	Duration	Predecessor
A	5	-
B	4	A
C	7	A
D	8	A
E	6	B,C
F	3	C,D
G	10	D
H	4	E,F,G

Results in Gantt chart





Example -4 Result Summary

Activity	Duration	Predecessor	Early Start	Early Finish	Late Start	Late Finish	TF	Critical	FF	INTF	INDF
A	5	-	0	5	0	5	0	Y	0	0	0
B	4	A	5	9	13	17	8	N	3	5	3
C	7	A	5	12	10	17	5	N	0	5	0
D	8	A	5	13	5	13	0	Y	0	0	0
E	6	B,C	12	18	17	23	5	N	5	0	0
F	3	C,D	13	16	20	23	8	N	8	0	3
G	10	D	13	23	13	23	0	Y	0	0	0
H	4	E,F,G	23	27	23	27	0	Y	0	0	0

Express Floats Mathematically

Calculation – Floats or Slack

TERM	DEFINITION & EQUATION
Total Float (TF)	<p>Maximum amount by which an activity can be delayed from Early Start without delaying the project</p> $TF = (LS-ES) = (LF-EF)$
Free Float (FF)	<p>Maximum amount by which an activity can be delayed without delaying the Early Start of any following activity</p> $FF = (\text{Min ES of Successor} - EF)$
Interfering Float (IntF)	<p>Maximum amount by which an activity can be delayed without delaying the project but will cause delay to the Early Start of some following activity</p> $IntF = (TF - FF)$
Independent Float (IndF)	<p>Amount by which an activity can be delayed Without delaying the project; <u>Even if all predecessors are at Late Finish and all Successors are at Early Start</u></p> $IndF = (\text{Min ES of Successors} - \text{Max LF of Predecessor} - Dur)$

Lecture Summary

1. Types of Float / Slack & Definitions
2. Calculation of Float - Examples
3. Usage of Float for Project Decisions