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## Assignment 3

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from the dependency diagram based on activities and predecessors.

A project critical path is longest path from start to finish.

Possible Paths and their Durations:

- 1)  $A \rightarrow E \rightarrow J \rightarrow N = 2 + 7 + 5 + 8 = 22$  months
- 2)  $A \rightarrow F \rightarrow K \rightarrow N = 2 + 3 + 4 + 8 = 17$  months
- 3)  $A \rightarrow F \rightarrow L = 2 + 3 + 3 = 8$  months
- 4)  $B \rightarrow D \rightarrow H \rightarrow K \rightarrow N = 5 + 5 + 6 + 4 + 8 = 28$  months
- 5)  $B \rightarrow D \rightarrow I \rightarrow M = 5 + 5 + 2 + 12 = 24$  months
- 6)  $B \rightarrow G \rightarrow K \rightarrow N = 5 + 3 + 4 + 8 = 20$  months
- 7)  $C \rightarrow H \rightarrow K \rightarrow N = 4 + 6 + 4 + 8 = 22$  months
- 8)  $C \rightarrow I \rightarrow M = 4 + 2 + 12 = 18$  months

The longest path determines the project duration and thus the critical path is  $B \rightarrow D \rightarrow H \rightarrow K \rightarrow N = 28$  months.

So total duration to complete project is 28 months.  
critical path  $B \rightarrow D \rightarrow H \rightarrow K \rightarrow N$  28 months

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## Gantt chart

Activity	Start Month	End Month
B	0	5
D	5	10
H	10	16
K	16	20
N	20	28

This means project can be completed in less than 28 months because these tasks form the longest chain without parallel execution