

Assignment

Name: Sher Muhammad Khan

ID # 16402

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Course Title: Project Management

Instructor: Sir Zaigham Abbas Sb

Q1.

Exercise Use the data in this table to answer the questions that follow:

Activity	Preceding Activity	Estimate in Months
Start		0
D	Start	4
A	Start	6
F	D, A	7
E	D	8
G	F, E	5
B	F	5
H	G	7
C	H	8
End	C, B	0

1. What is the duration of the critical path?

Solution

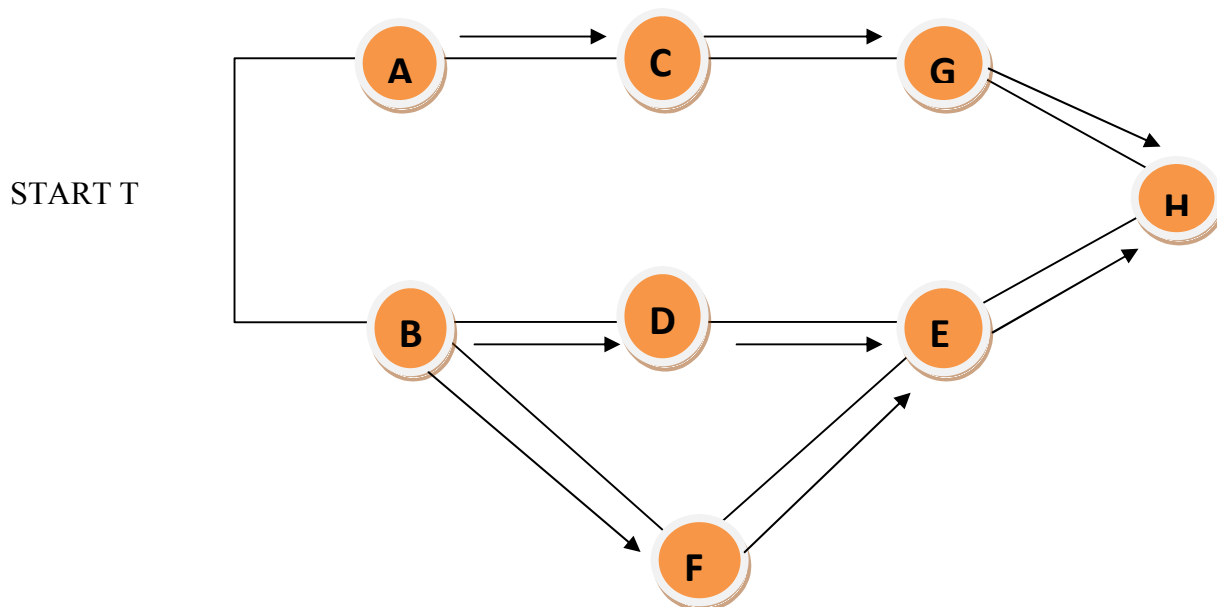
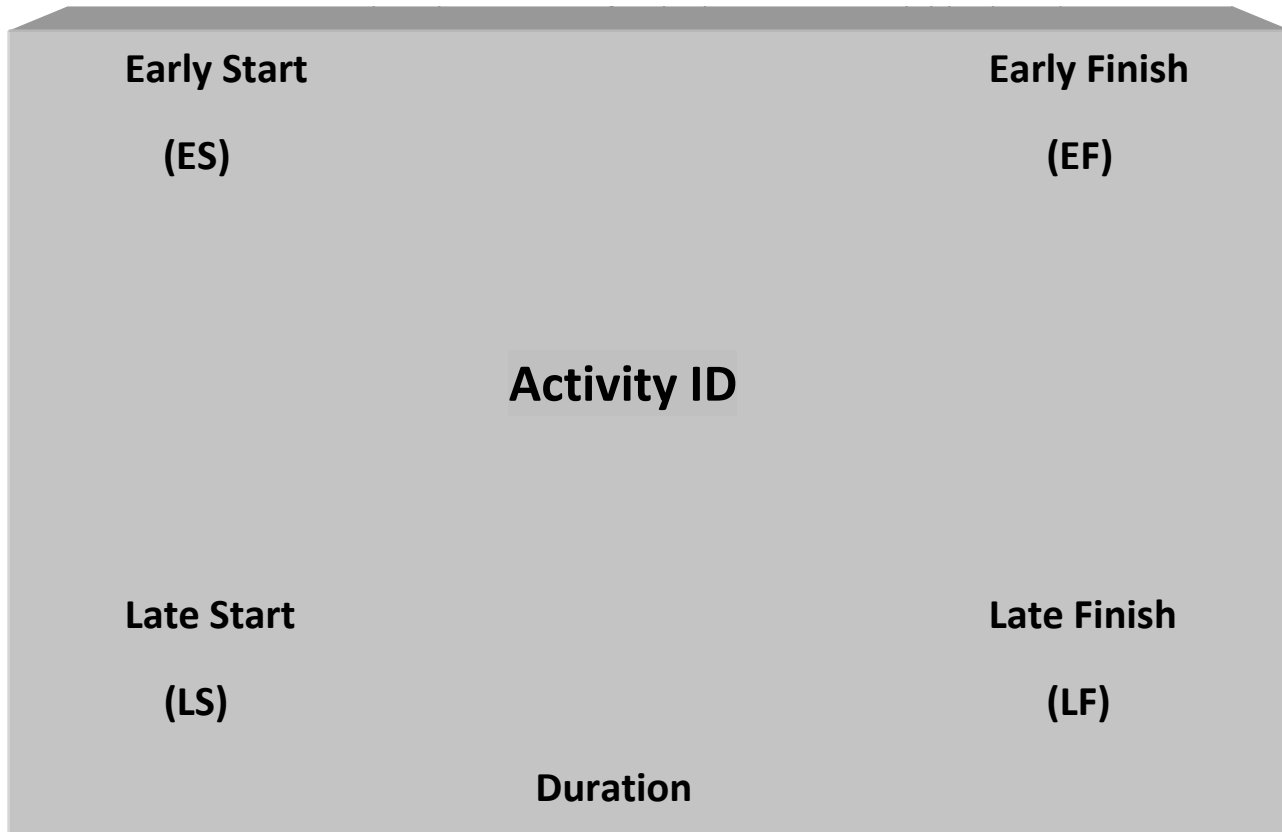
Duration of the Critical Path

- The Critical Path Method or Critical Path Analysis, is a scientifically based calculation for booking a lot of undertaking exercises
- It is a significant device for powerful undertaking administration
- Commonly utilized with all types of undertakings, including development, programming advancement, research ventures, item improvement, designing, and plant upkeep, among others
- Any venture with associated exercises can apply this technique for planning
- The basic method for utilizing CPM is to build a model of the venture that incorporates the accompanying:

- A rundown of all exercises required to finish the venture (otherwise called Work Breakdown Structure)
- The time (span) that every movement will take to consummation
- The conditions between the exercises.
- **CPM computes**
 - The longest way of arranged exercises to the furthest limit of the task
 - The most punctual and most recent that every movement can begin and finish without making the task longer
- Determines "basic" exercises (on the longest way)
- Prioritize exercises for the successful administration and to abbreviate the arranged basic way of an undertaking by:
 - Pruning basic way exercises
 - "Fast following" (performing more exercises in equal)
 - "Crashing the basic way" (shortening the spans of basic way exercises by including assets)
- **Phase I**
 - Break venture into tasks fundamental for finish
 - Determine consecutive relationship of tasks
 - Every activity must have occasion to stamp initiation – for example fruition of going before activity
 - Can activities cover?
- **Phase II**
 - Create time gauges for every activity
 - Determine most punctual conceivable beginning date, soonest conceivable finish date , most recent beginning and finish
 - Determine "free buoy" and "absolute buoy"
 - Revised after fruition of Phase III
- **Phase III**
 - Establish time-cost relationship
 - Establish planning varieties
 - Determine most great harmony between time-cost
 - Normal Start – typical time, least expense
 - All-Crash Start – least time, greater expense

Definitions

- **Critical path** is the sequence of activities which add up to the longest overall duration. It is the shortest time possible to complete the project. Any delay of an activity on the critical path directly impacts the planned project completion date (there is no float on the critical path). A project can have several, parallel, near critical paths. An additional parallel path through the network with the total durations shorter than the critical path is called a sub-critical or non-critical path.
- **Critical activity** – activity with zero float



Activity ID	Duration	Dependency
A	7	
B	3	
C	6	A
D	3	B
E	3	D,F
F	2	B
G	3	C
H	2	E,G

