UCI Extension
Continuing Education

Business Tools for Career Readiness

Project Management:
The Basics for Success

Module 3

with Rob Stone, M.Ed., PMP

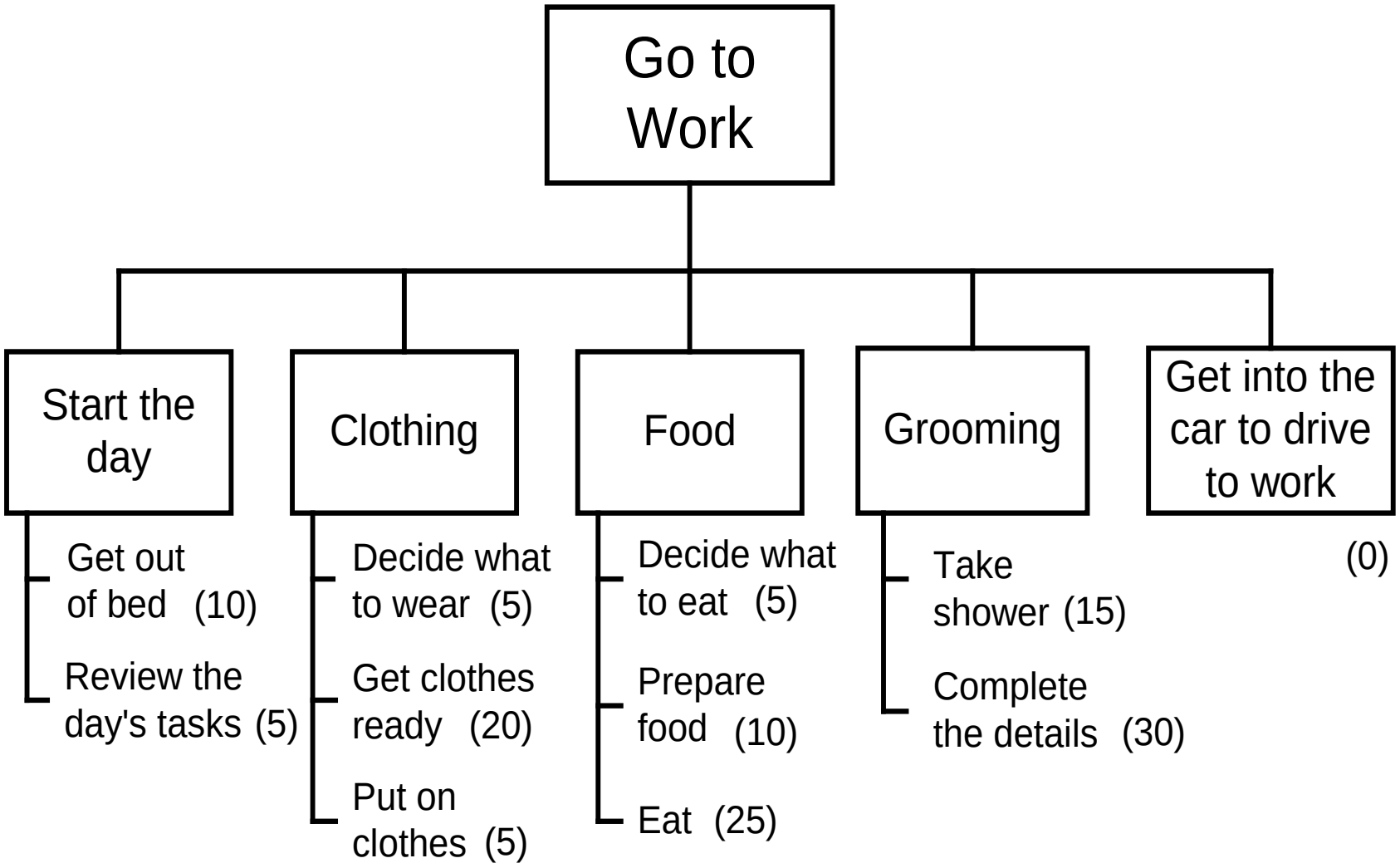
How Do We Construct a Schedule?

1. Move the detailed tasks to the schedule
2. Add the task durations
3. Arrange the tasks into the sequential or simultaneous relationships
4. Add the initial start or finish of the overall project
5. Add the early and late start and finish times
6. Add whatever other information you might want, such as team members’ names to tasks and costs

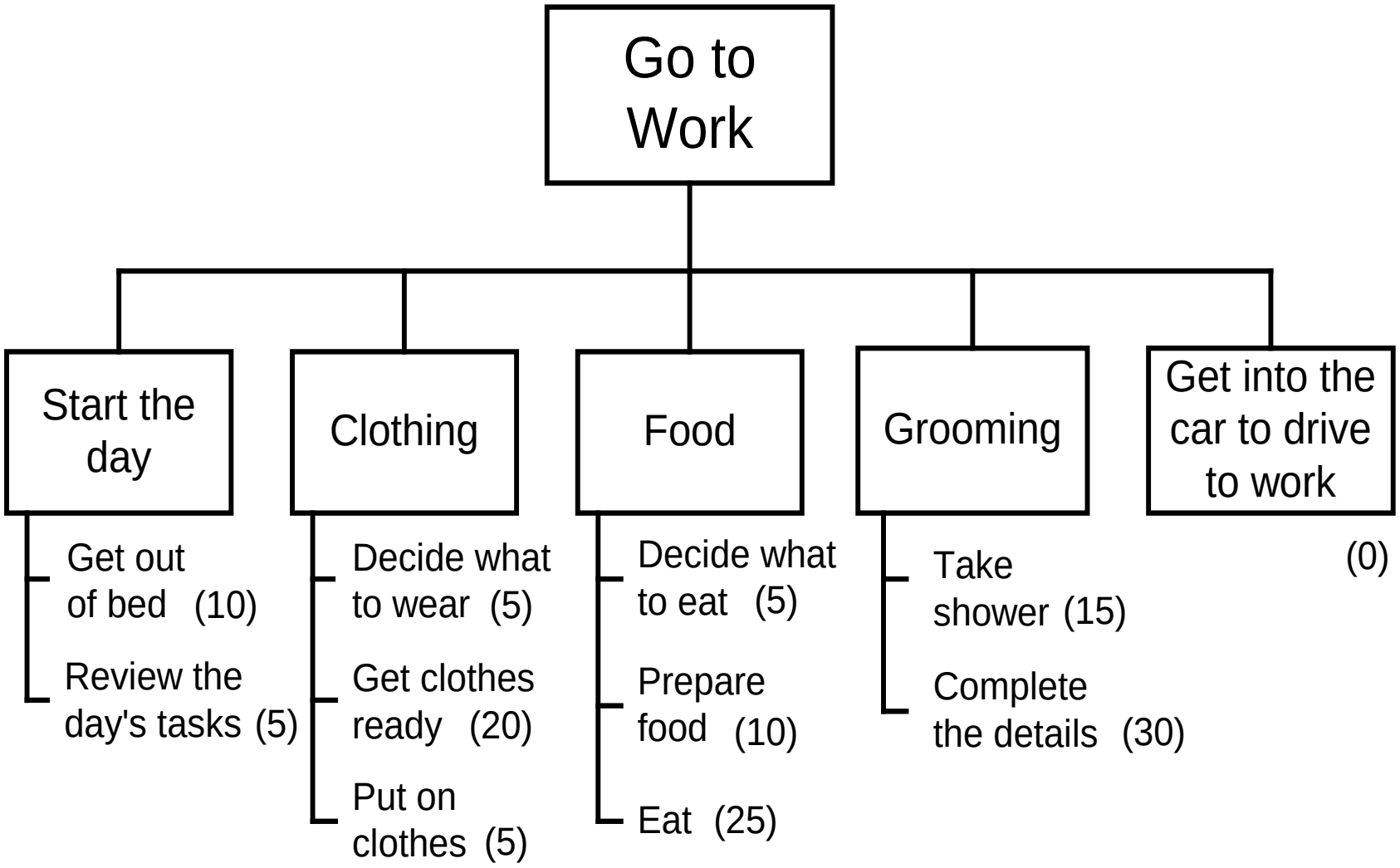
Let’s look at an example

Go to Work WBS

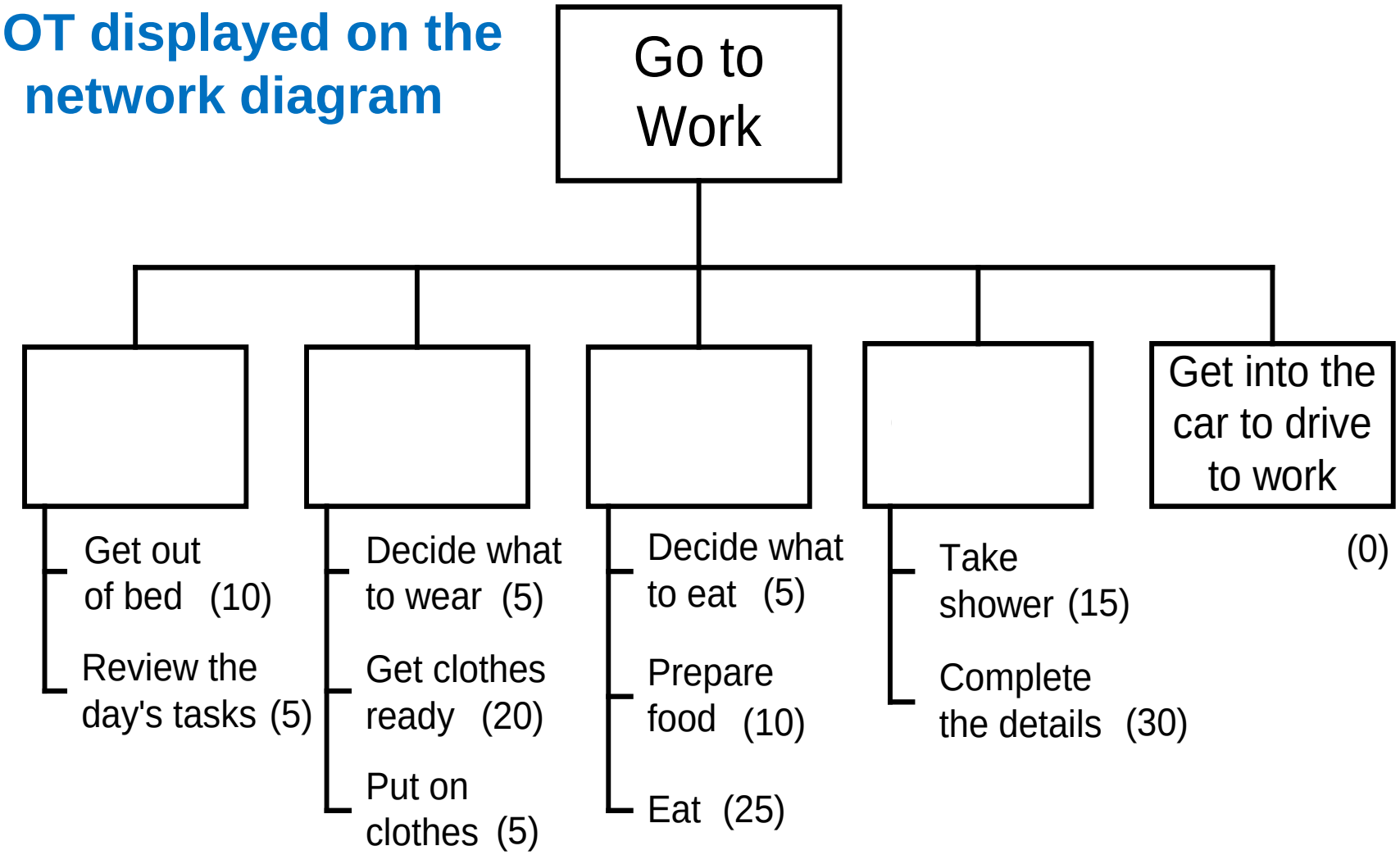
Go to Work WBS



Go to Work WBS



The headings for groups of tasks are NOT displayed on the network diagram



Go to Work
Network Diagram

Constructing the Schedule

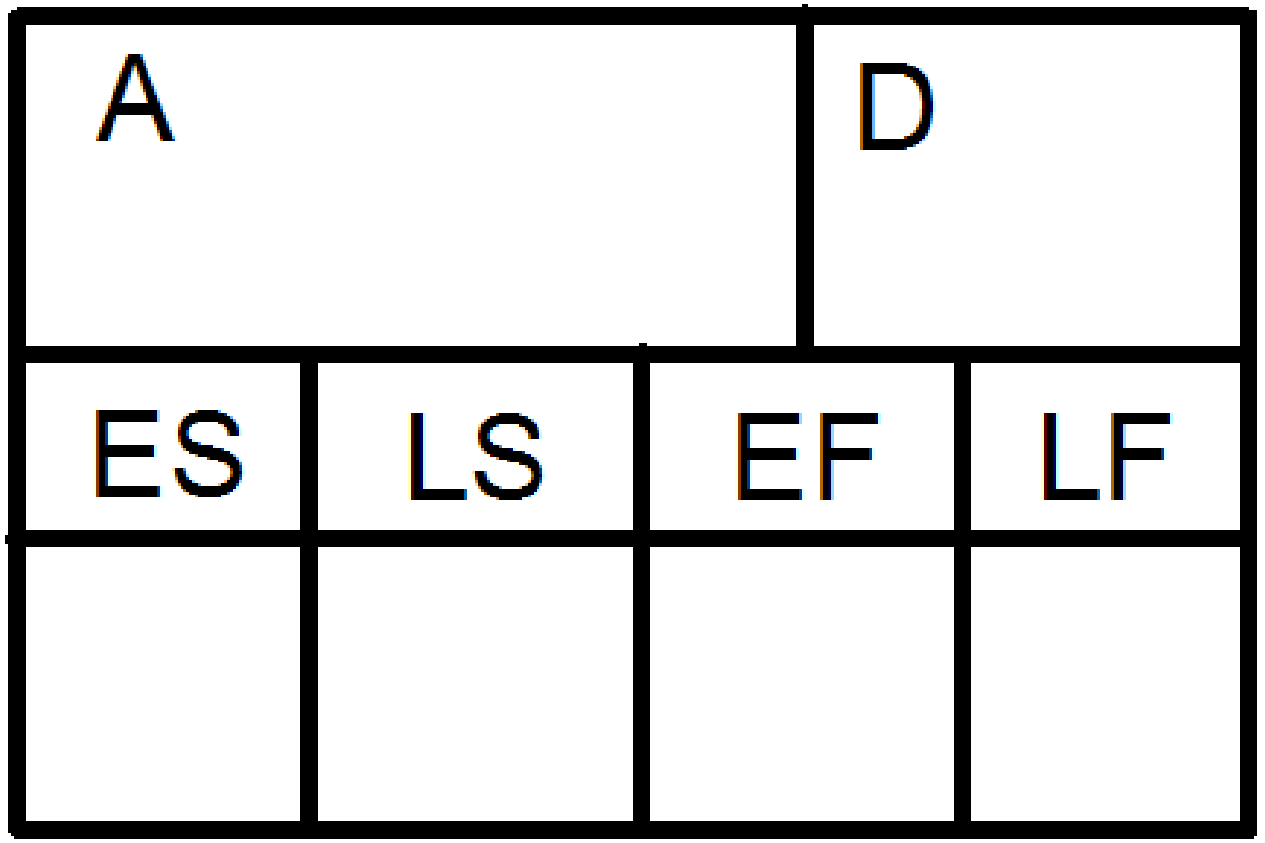
- We will use our “Go To Work” WBS to construct a schedule for this mini project.

- We will start with a Network Diagram (AON format). This is often a good planning tool.

- We can move to a Gantt Chart.

Not all Project Managers use Network Diagrams. Many only use Gantt Charts.

This is the Building Block of the Network Diagram

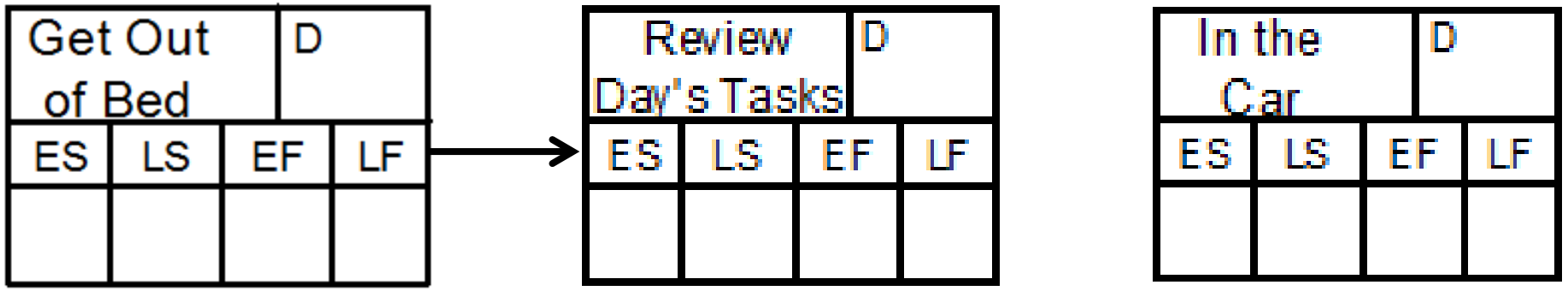


A = Activity, D = Duration

ES = Early Start, LS = Late Start

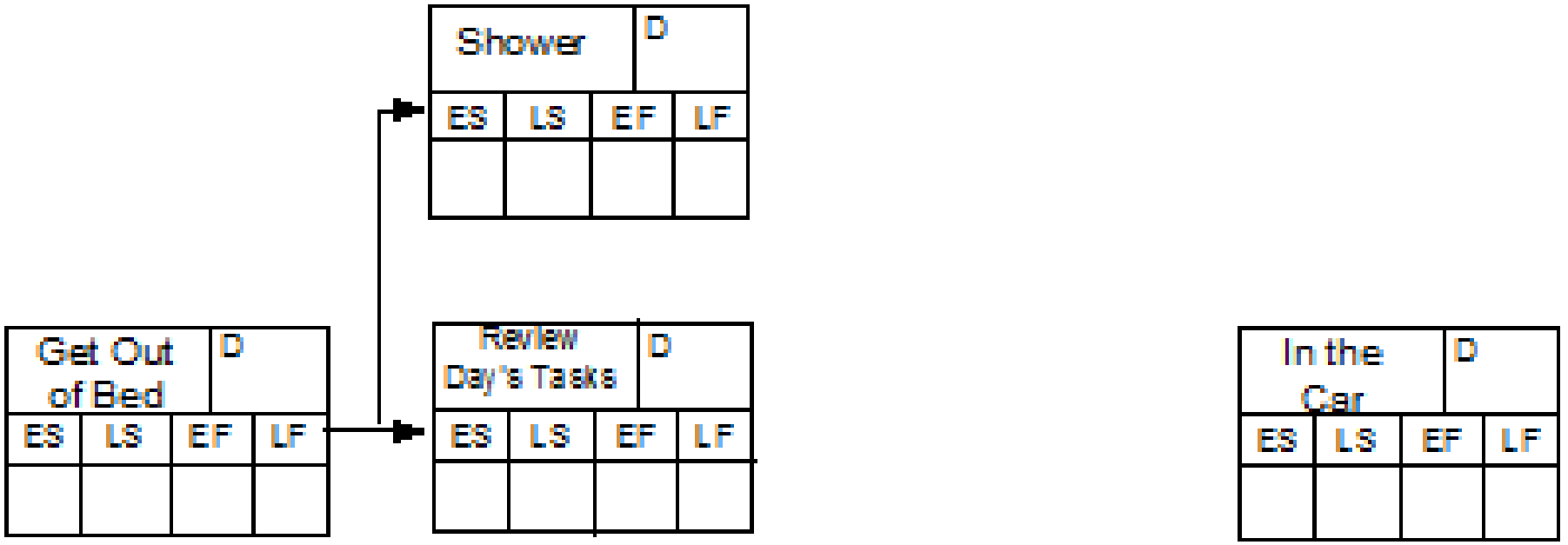
EF = Early Finish, LF = Late Finish

Start adding the other tasks and add the connecting lines that show which tasks lead to other tasks

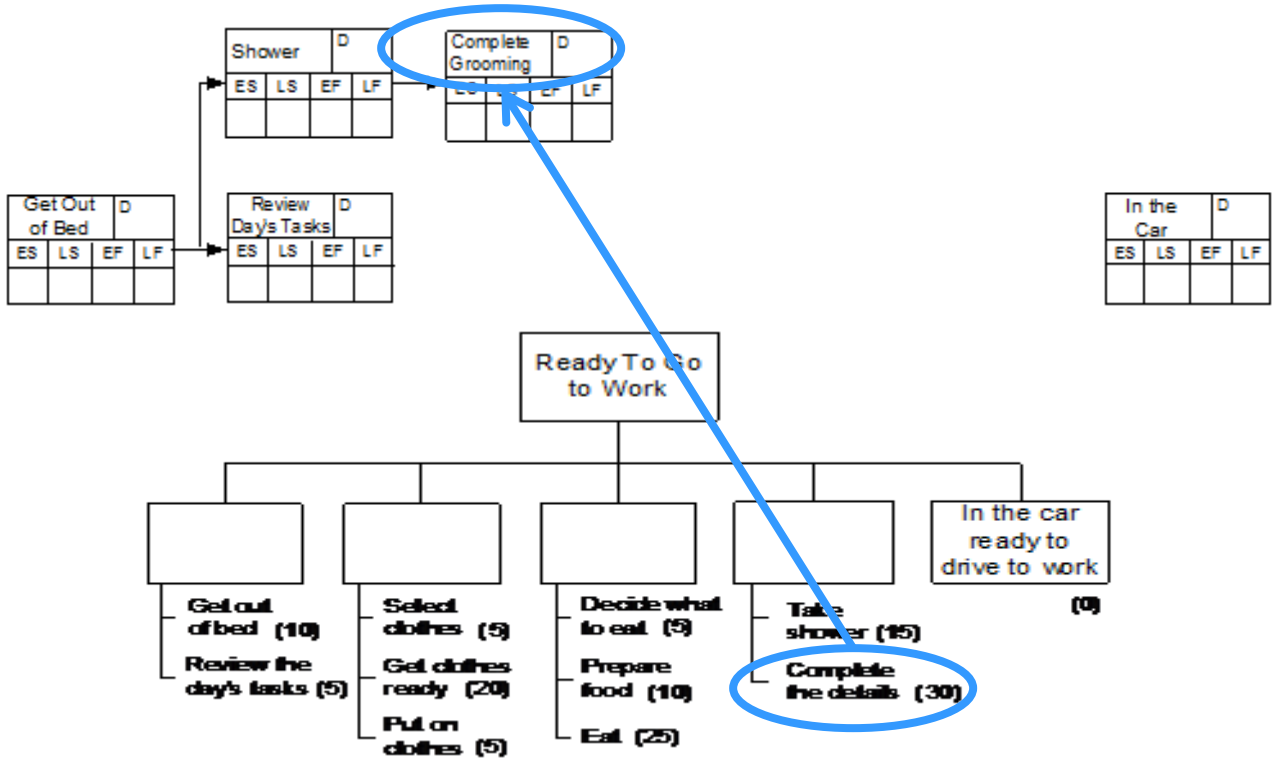


These connecting lines are called either predecessor lines or dependency lines. They are dependency lines if you follow the arrow to the next task in the sequence. They are called predecessor lines if you follow the arrow backward to the previous task in the sequence. Use whichever works best for you in a specific situation.

Let’s Add More Tasks



Let's Continue Adding Tasks

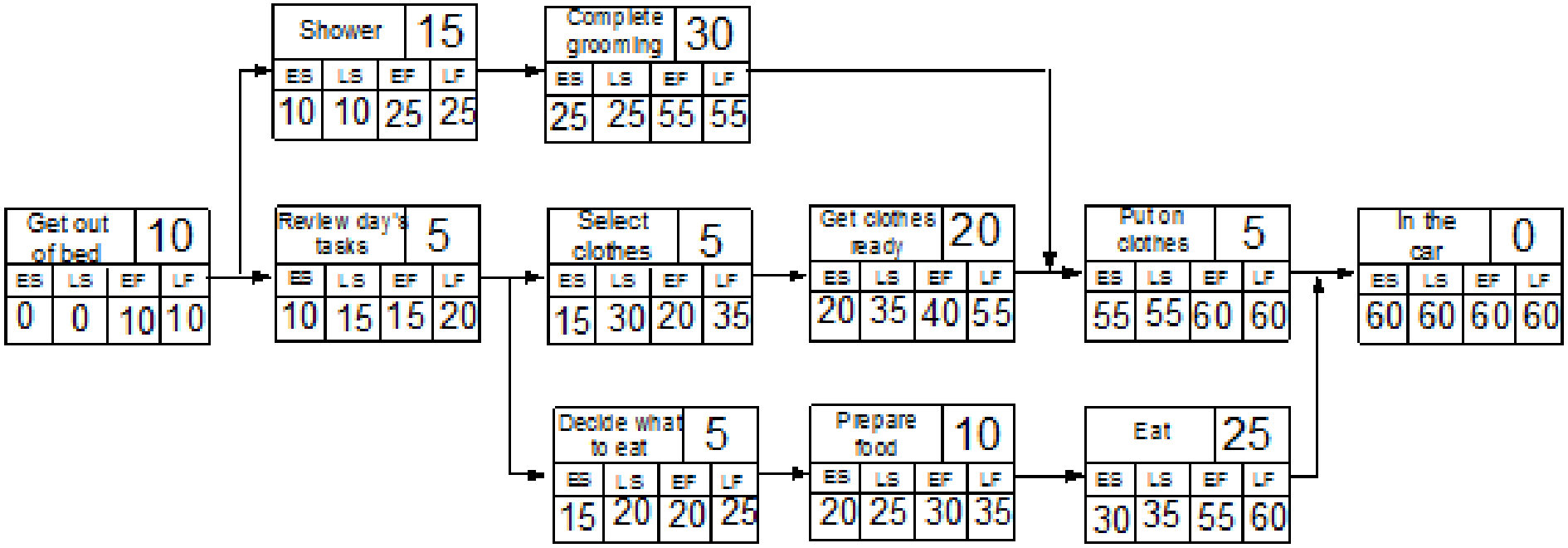


Remember that these tasks come directly from the WBS. We don't need to make up these tasks in the WBS. The schedule just puts those tasks together in a different way – into a sequential schedule.

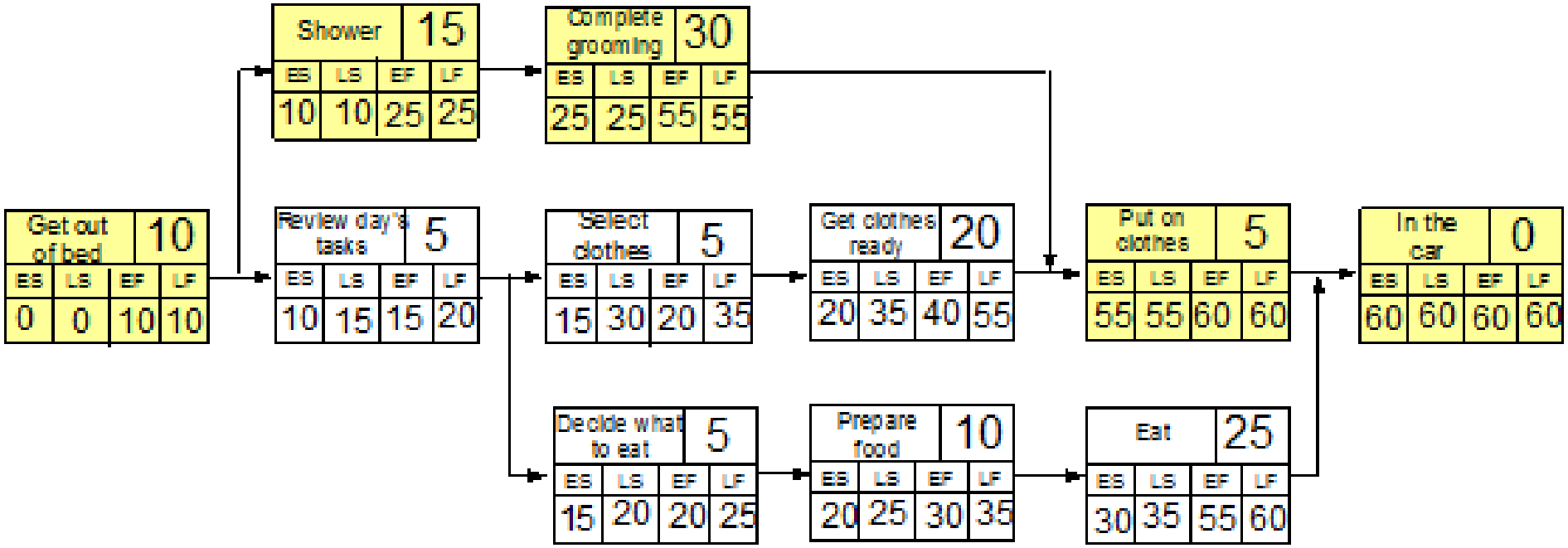
Milestones

- Milestones are zero duration tasks that designate significant events in the project.
- That is the case here. We are in the car ready to go to work, but we are not at work yet. There is still more to do to get to work.
- Yes, being in the car is a significant spot in the project and can be displayed at a milestone.

Completed AON Network Diagram of “Go To Work”



Critical Path Through the Project

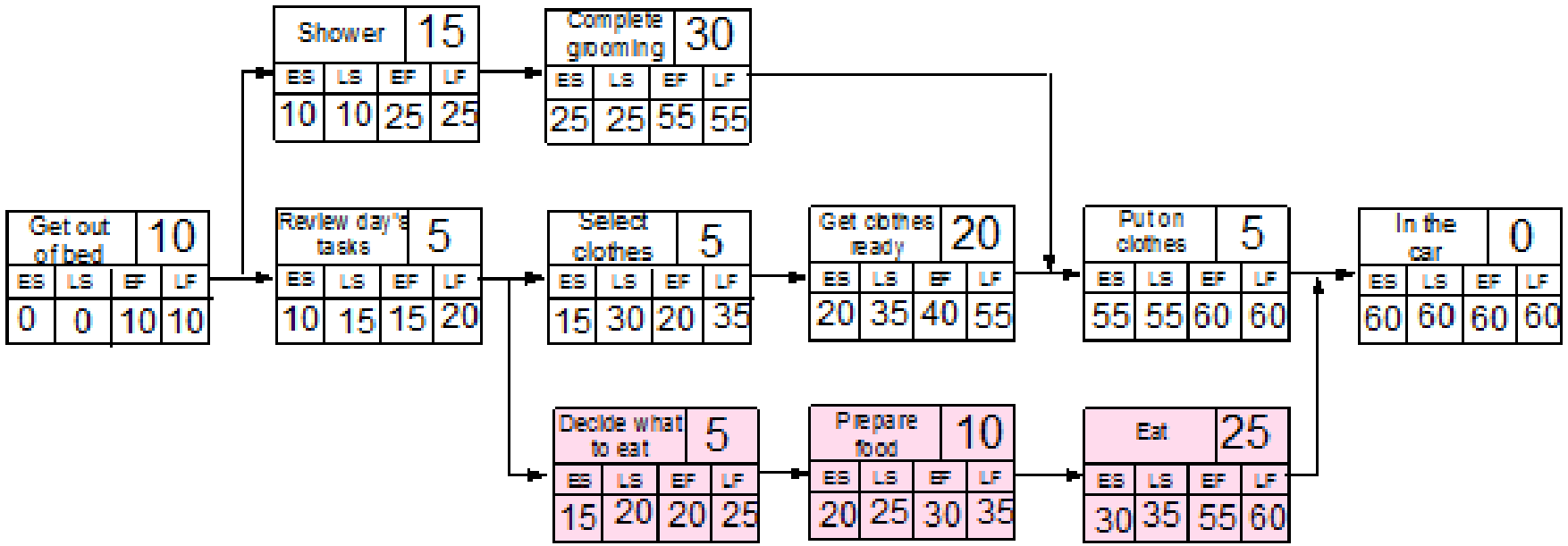


Critical Path

Generally, but not always, the sequence of schedule activities that determines the duration of the project. It is the longest path through the project.

*A Guide to the Project Management Body of Knowledge®, (*PMBOK® Guide) – Fifth Edition

Float Time in the Project



Float Time

Total Float Time (Slack Time):
The total amount of time a schedule activity may be delayed from its early start date without delaying the project finish date or violating a schedule constraint

Free Float:
The total amount of time a schedule activity can be delayed without delaying the early start of any immediately following schedule activities

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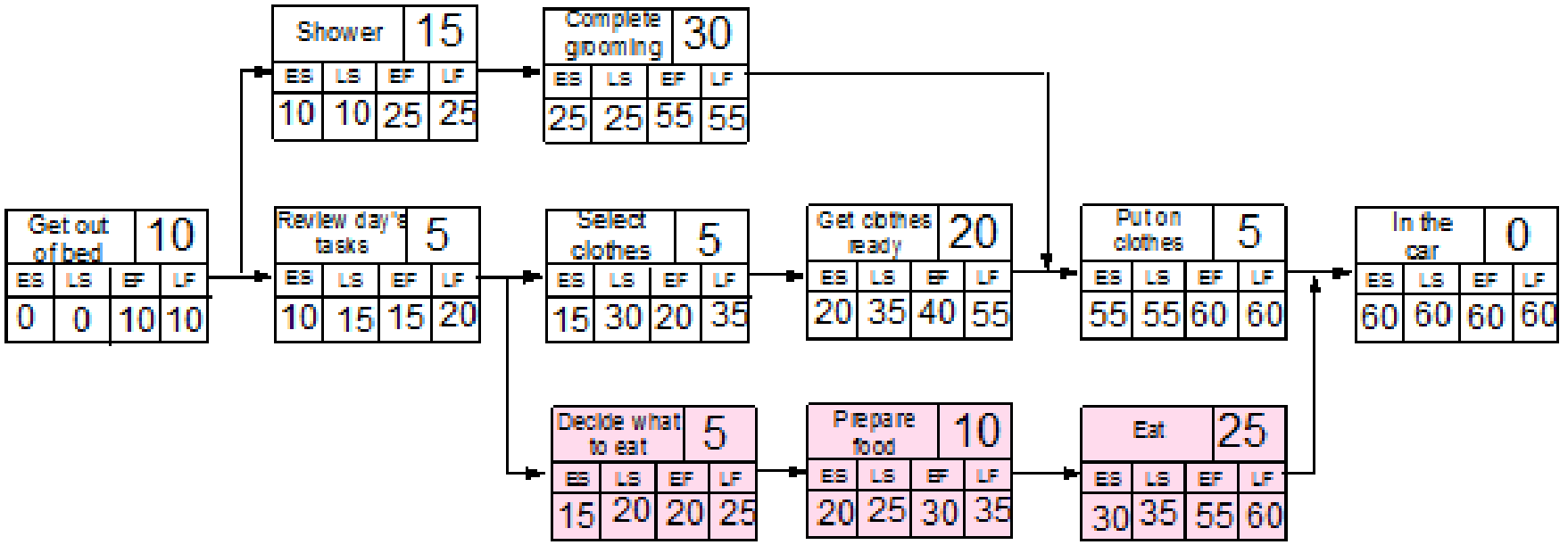
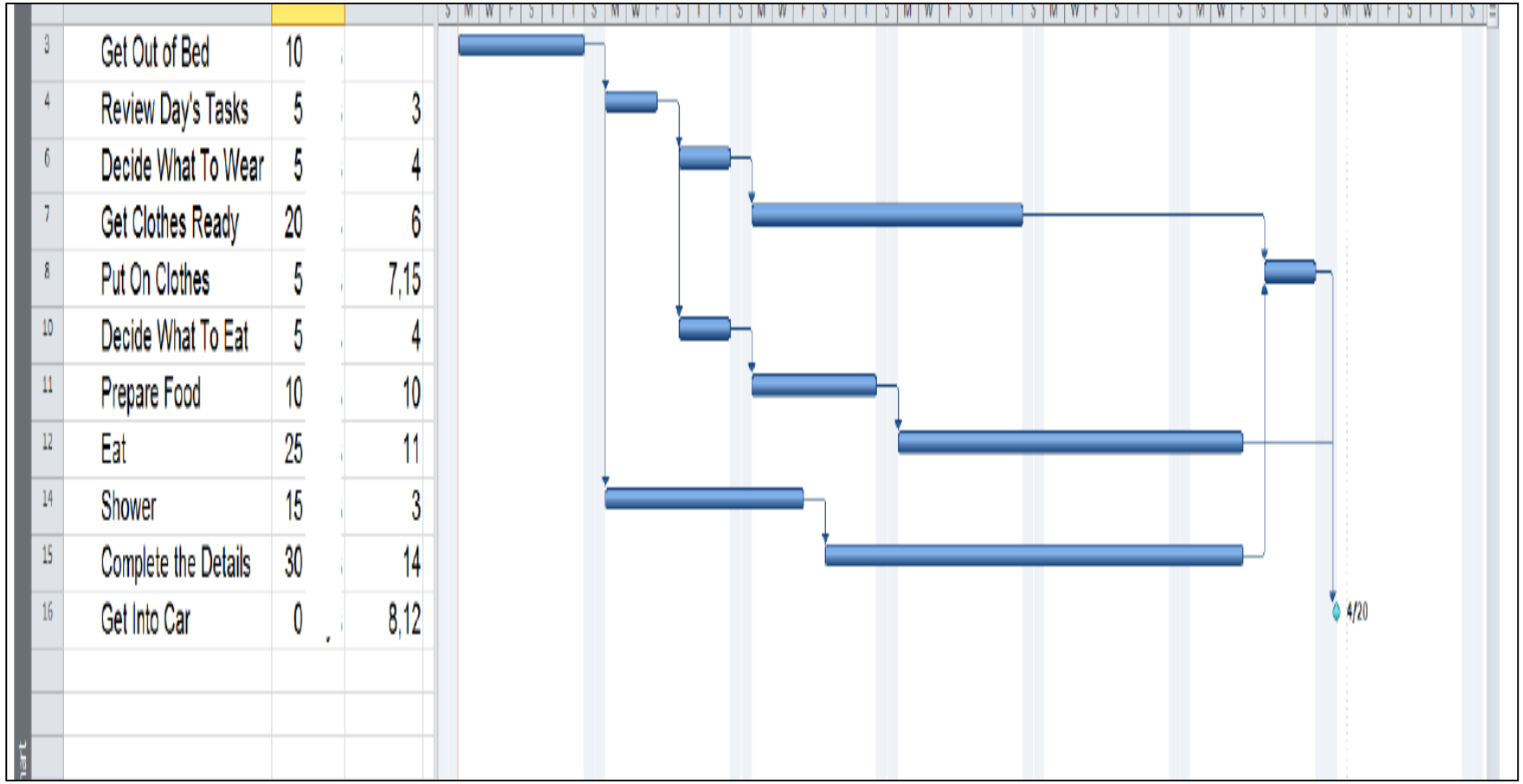
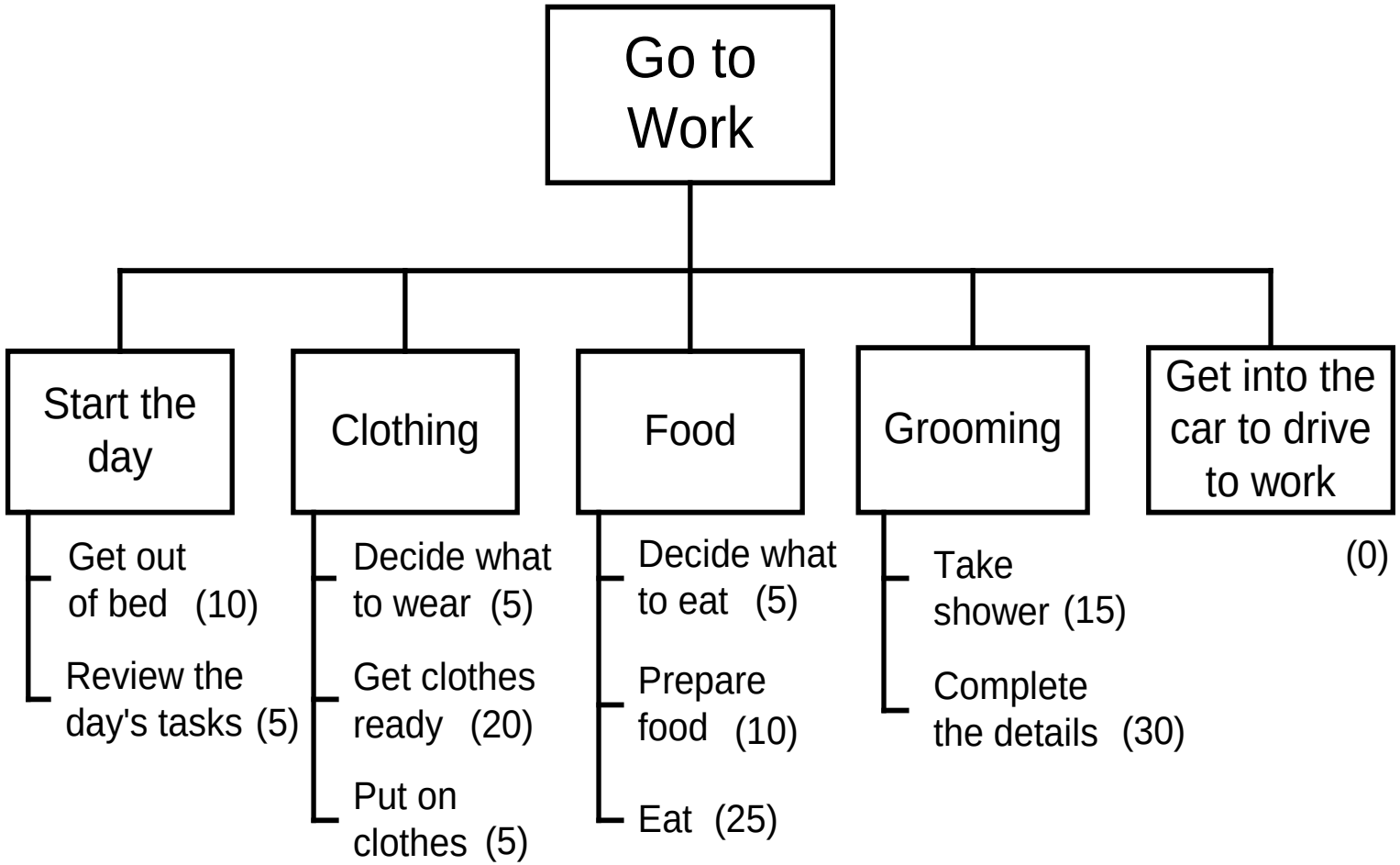
Float Time in the Project



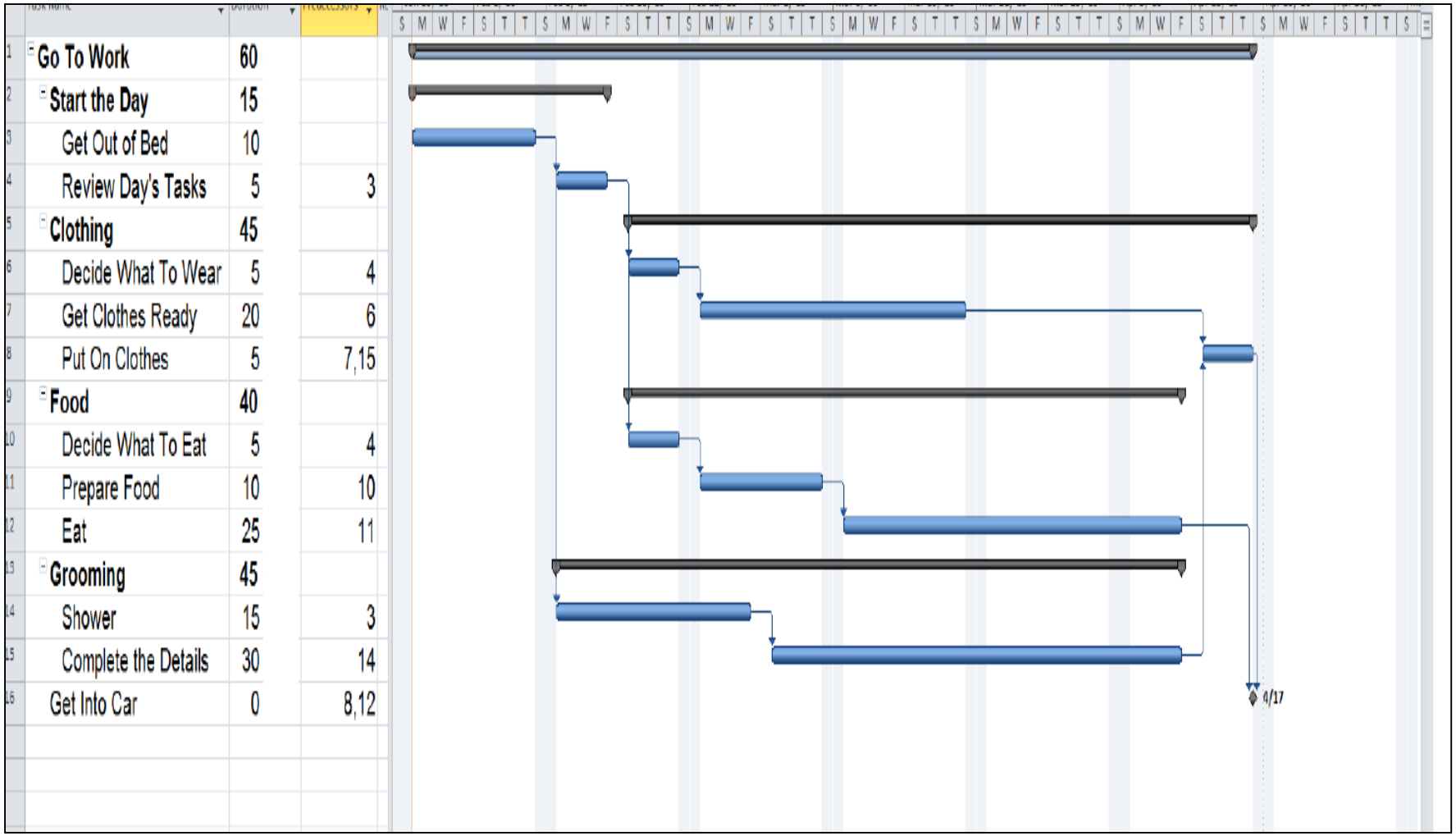
“Go To Work” Gantt Chart without Task Group Headings (Summary Tasks)



Go to Work WBS

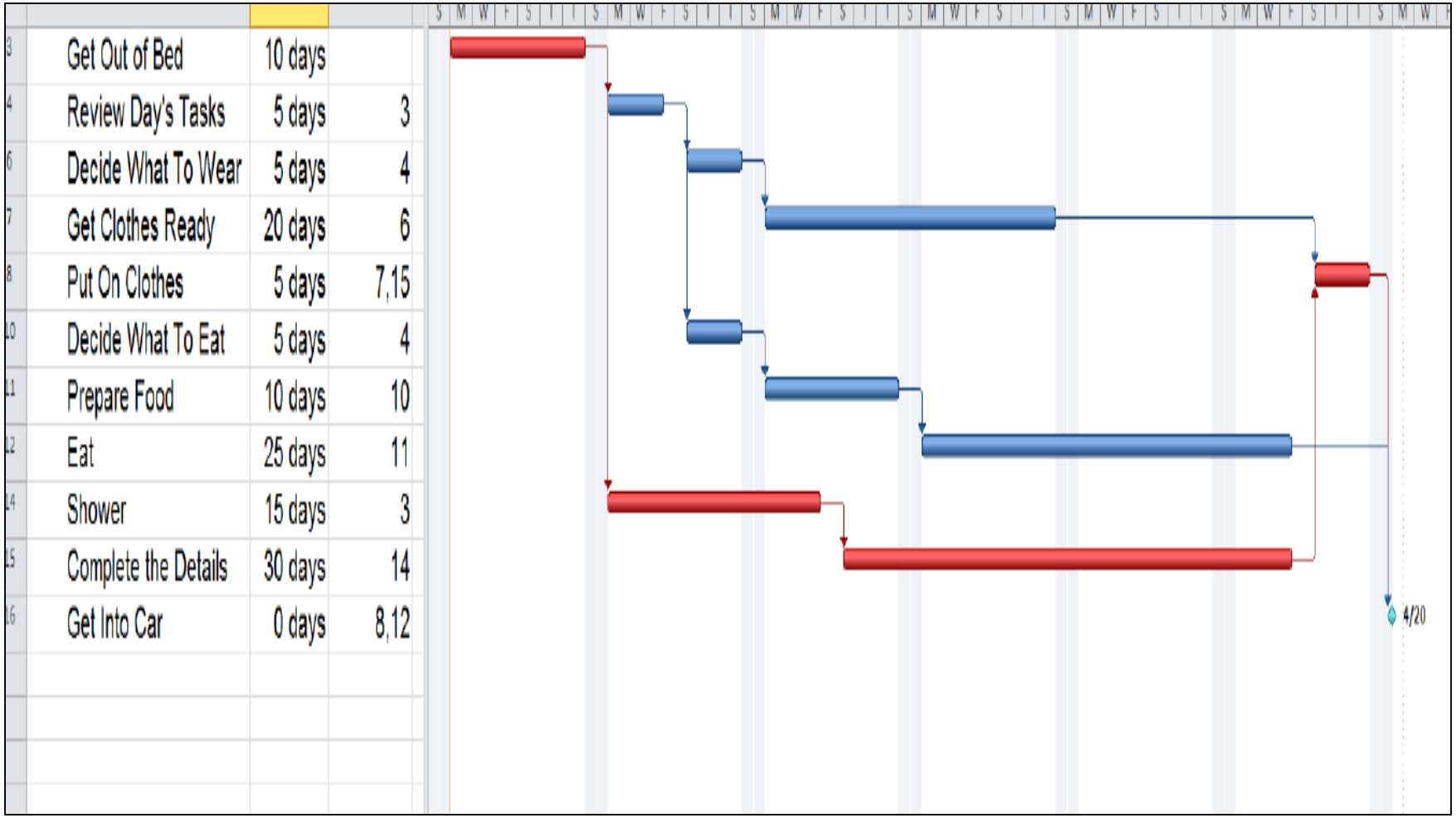


“Go To Work” Gantt Chart WITH Task Group Headings (Summary Tasks)

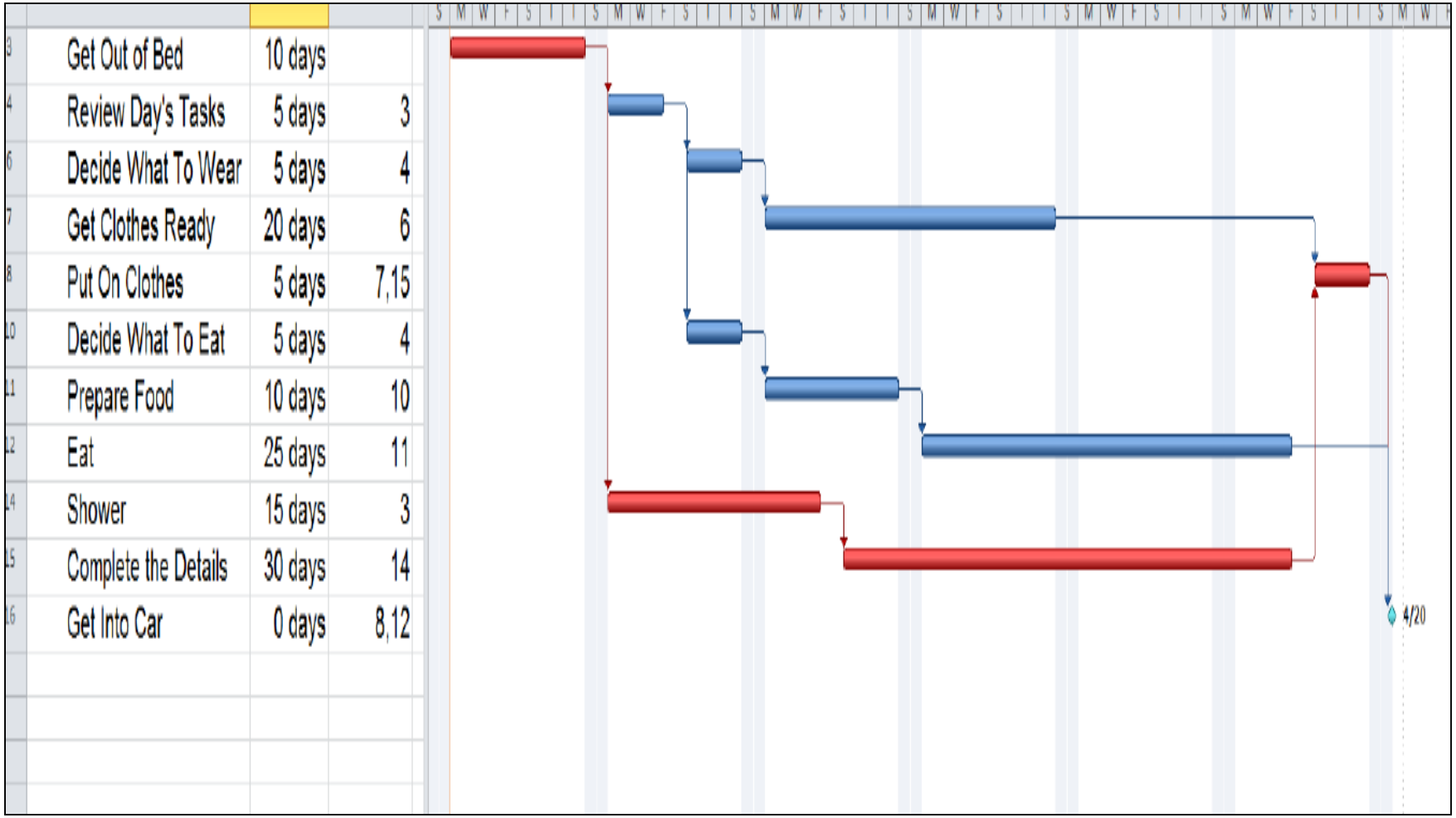


	Task Name	Duration	Predecessors
1	**Go To Work**	60	
2	**Start the Day**	15	
3	Get Out of Bed	10	
4	Review Day's Tasks	5	3
5	**Clothing**	45	
6	Decide What To Wear	5	4
7	Get Clothes Ready	20	6
8	Put On Clothes	5	7,15
9	**Food**	40	
10	Decide What To Eat	5	4
11	Prepare Food	10	10
12	Eat	25	11
13	**Grooming**	45	
14	Shower	15	3
15	Complete the Details	30	14
16	Get Into Car	0	8,12

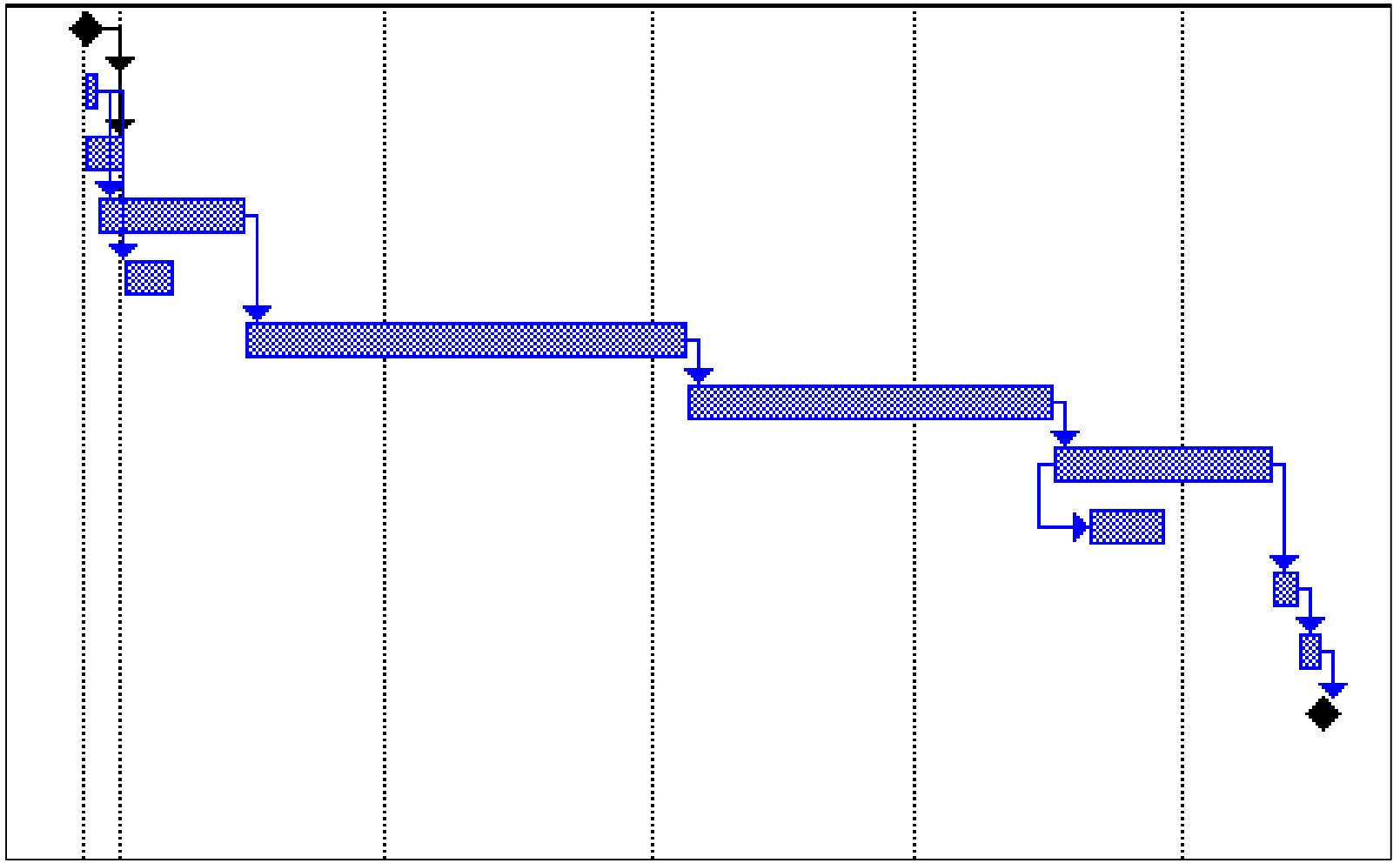
Critical Path Shown On the Gantt Chart: Red Bars



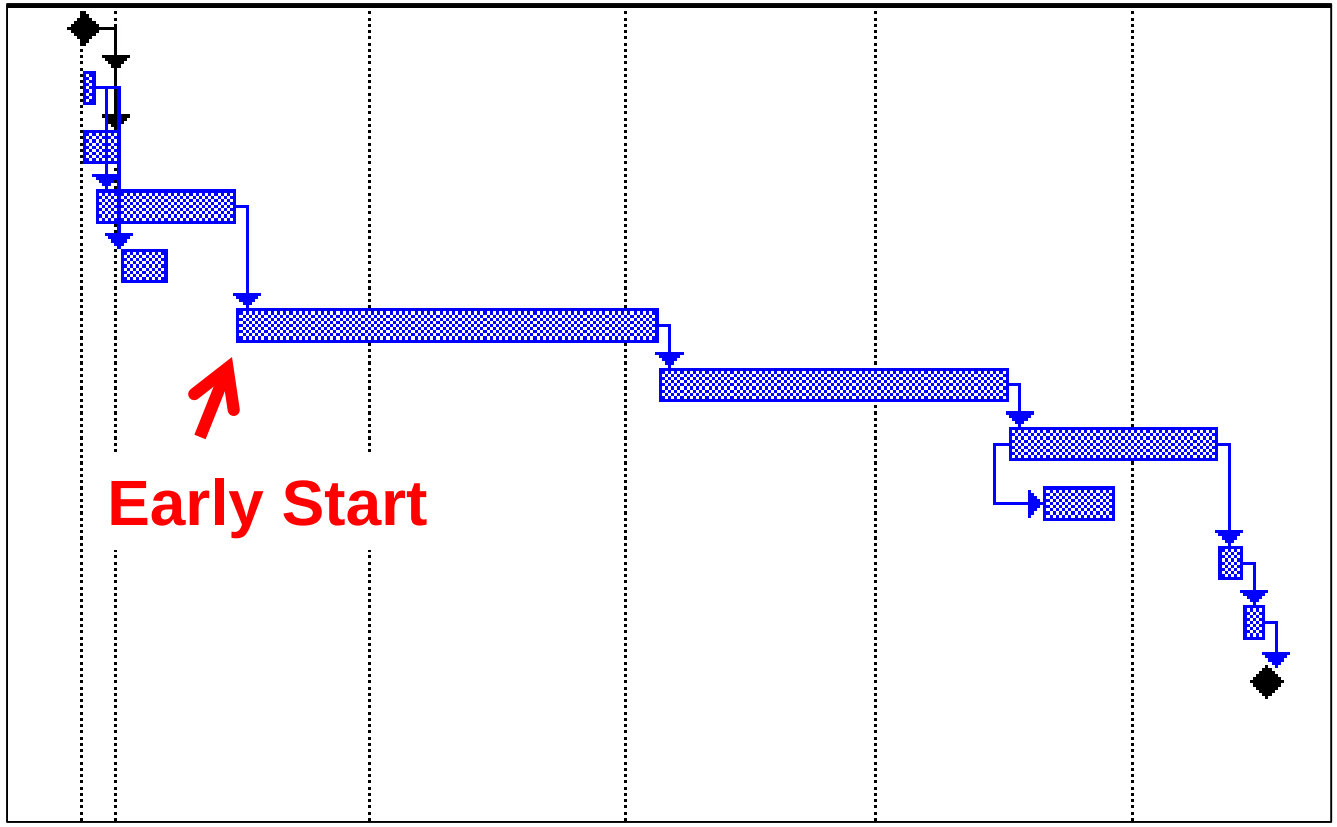
Float Time Shown On the Gantt Cart: Blue Bars



Gantt Chart



What We See on a Gantt Chart



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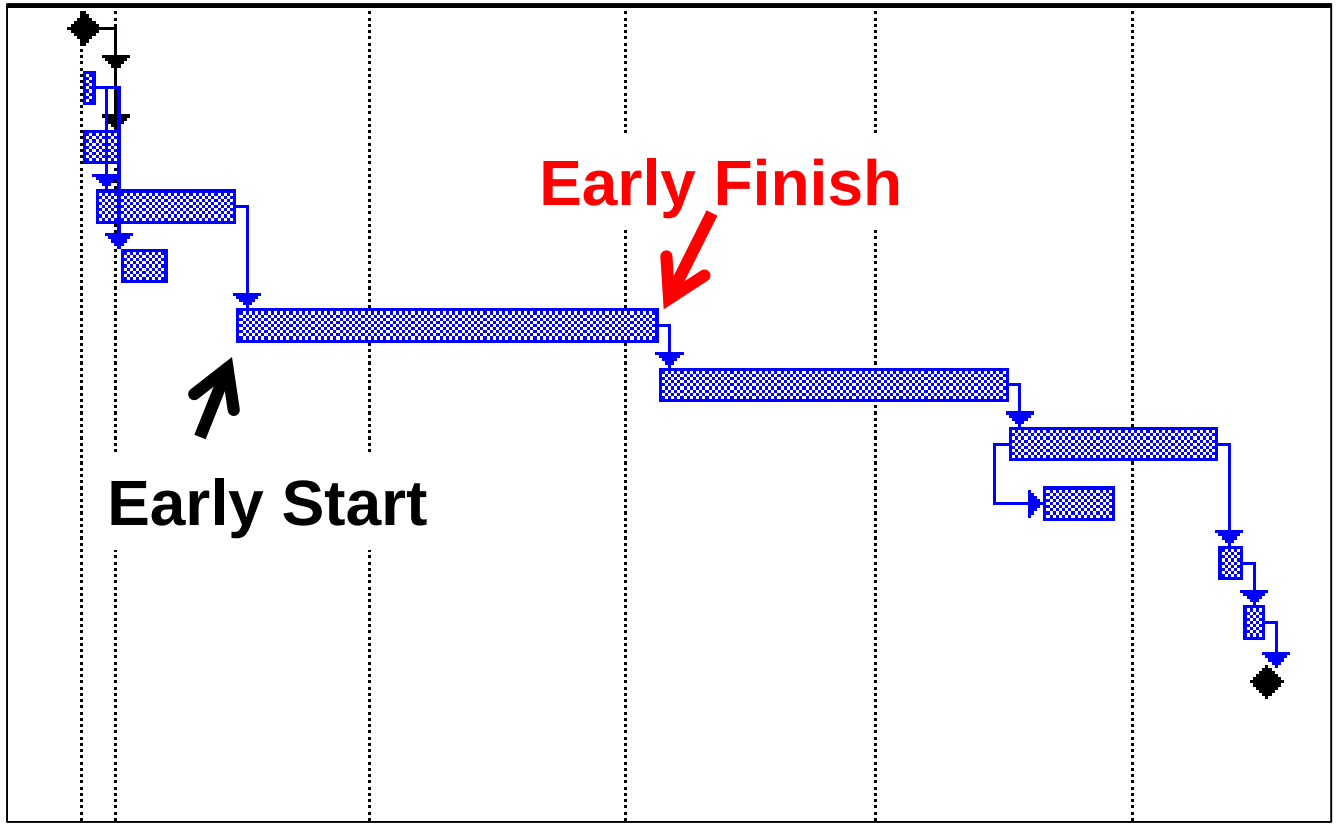

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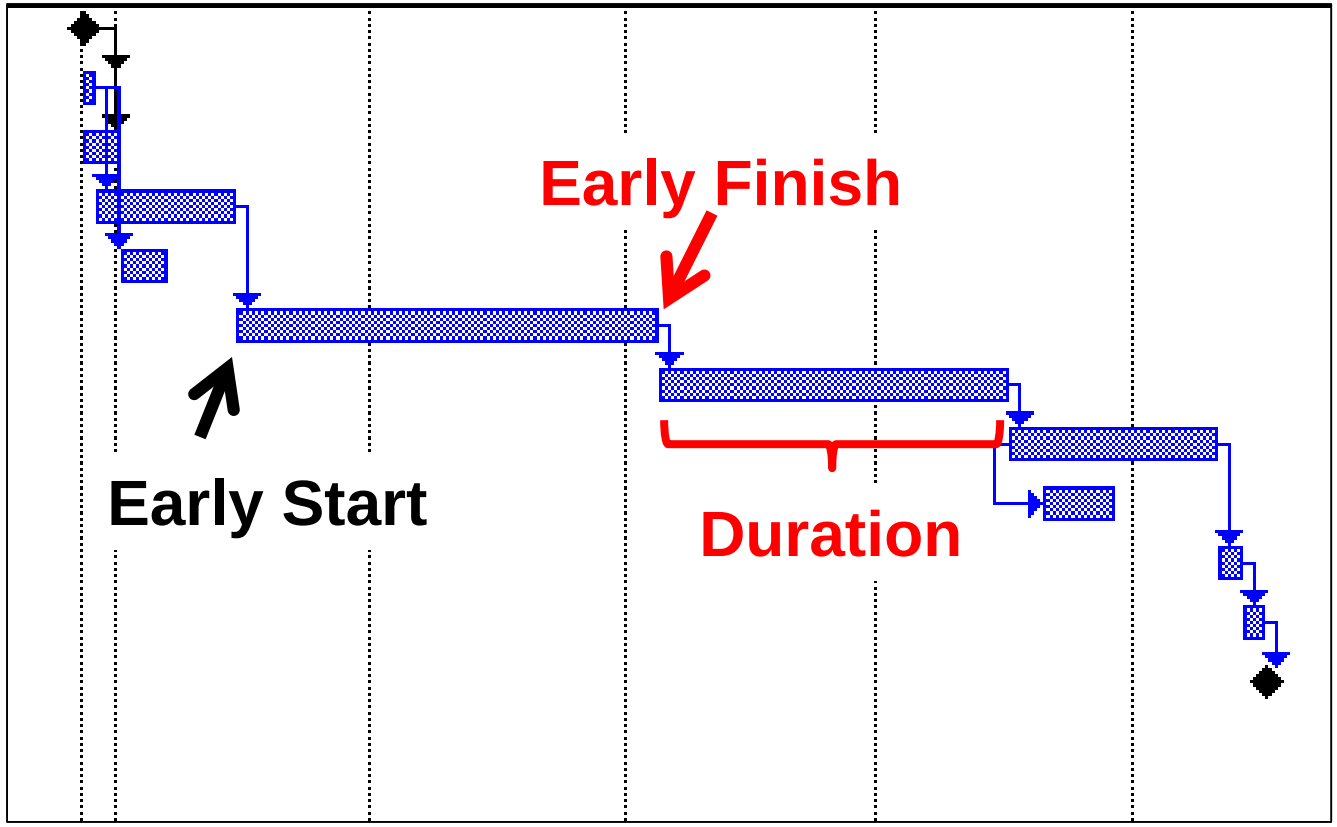

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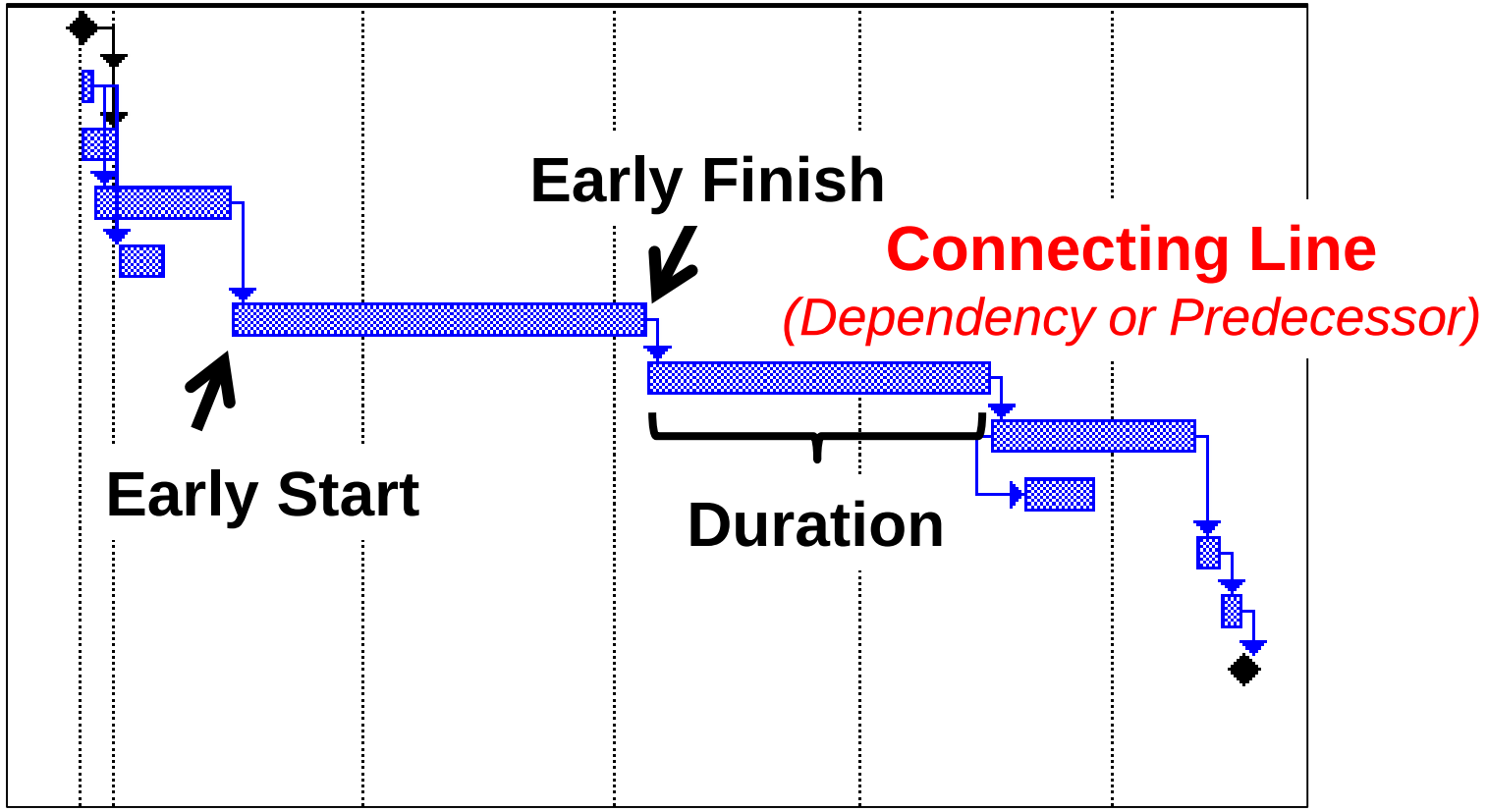


Software

- Many good ones out there
- Microsoft Project is becoming a standard
  - Everyone seems to have it
  - Transportability with other Microsoft programs

Baseline

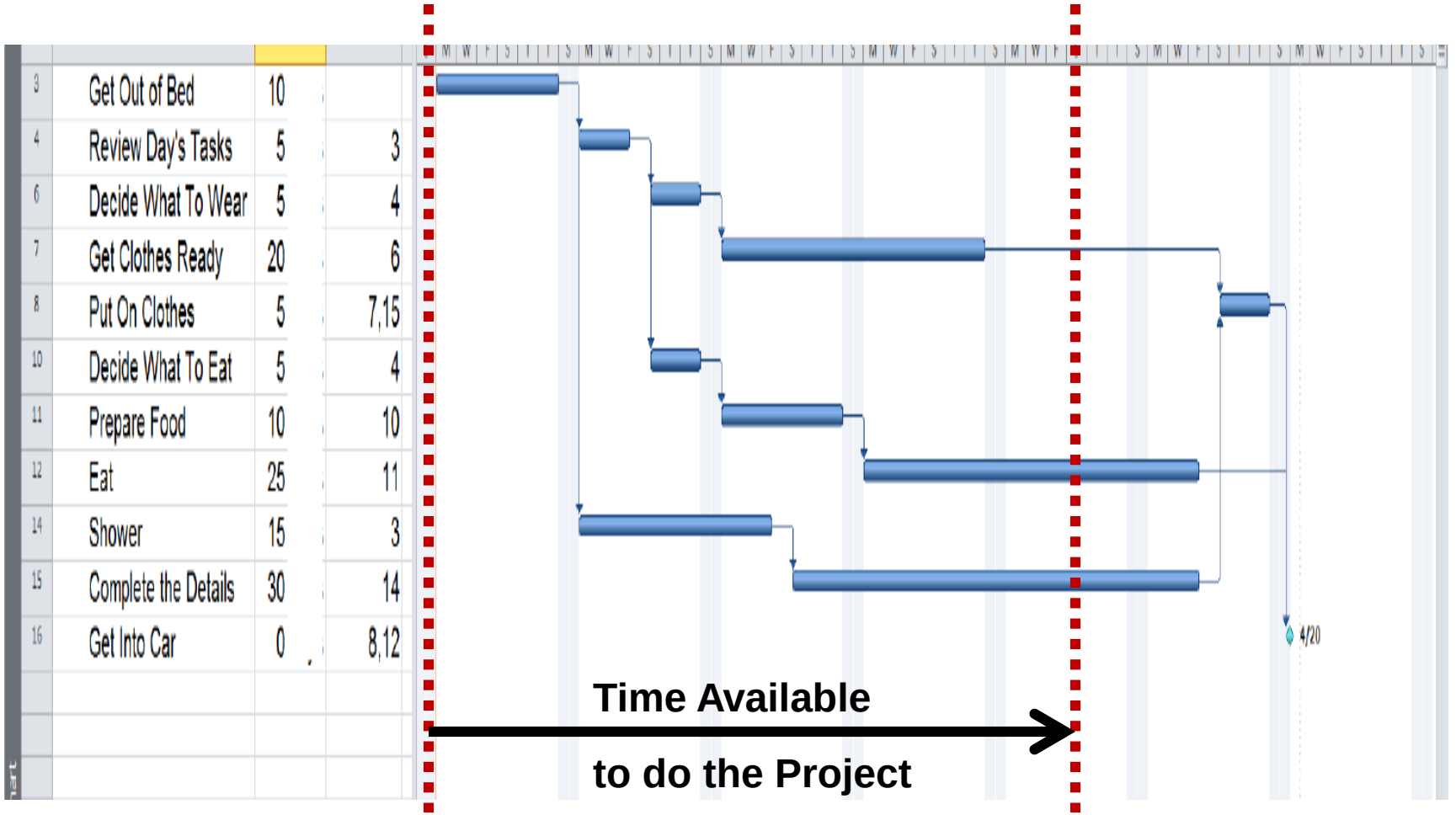
The original approved plan (for a project, a work package, or an activity), plus or minus approved scope changes. Usually used with a modifier (e.g., cost baseline, schedule baseline, performance measurement baseline).

*A Guide to the Project Management Body of Knowledge®, (*PMBOK® Guide) – Fifth Edition

Human Resource Constraints

Adjust the critical path based on tasks along with resource constraints

Sometimes Our Schedule Is Longer Than the Amount of Time We Have



Crashing the Project

A specific type of project schedule compression technique … to decrease the total project schedule duration …Typical approaches … include reducing schedule activity durations and increasing assignment of resources.

Crashing often increases project costs.

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Fast Tracking the Project

A specific type of project schedule compression technique that changes network logic to overlap phases that would normally be done in sequence … or to perform schedule activities in parallel.

Fast tracking often increases risks.

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Two Last Resorts

Reduce the Scope: simply take some deliverables out of the project

Reduce the Quality: Provide something even if it is not what was originally specified

Neither of these is preferred,
but may be necessary

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