Introduction to Software Engineering

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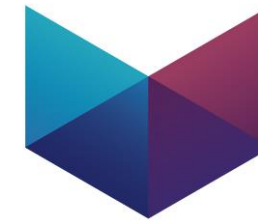
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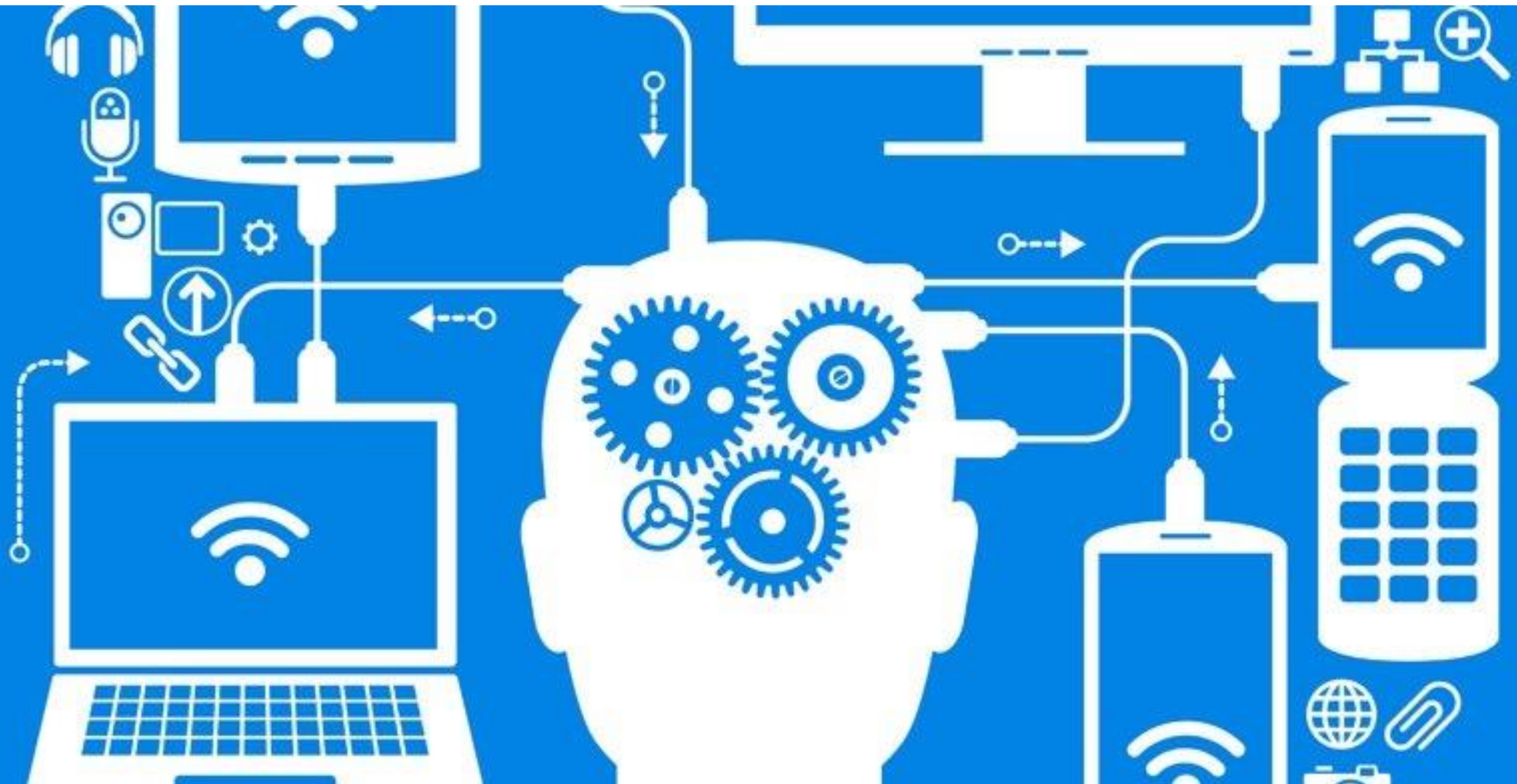
Software Management

- Project planning

- Project management

- Quality management

- Configuration management

- Process improvement

Software Management

Project Planning Process

Project planning takes place at three stages in a project life cycle:

1. Proposal stage – resources evaluation, time estimation
   => *cost evaluation*

2. Project startup stage – breaking down into increments, resource allocation => *cost refinement*

3. Periodically throughout the project – modification basing on experience gained and information from monitoring the progress of the work => *consequent cost refinements*

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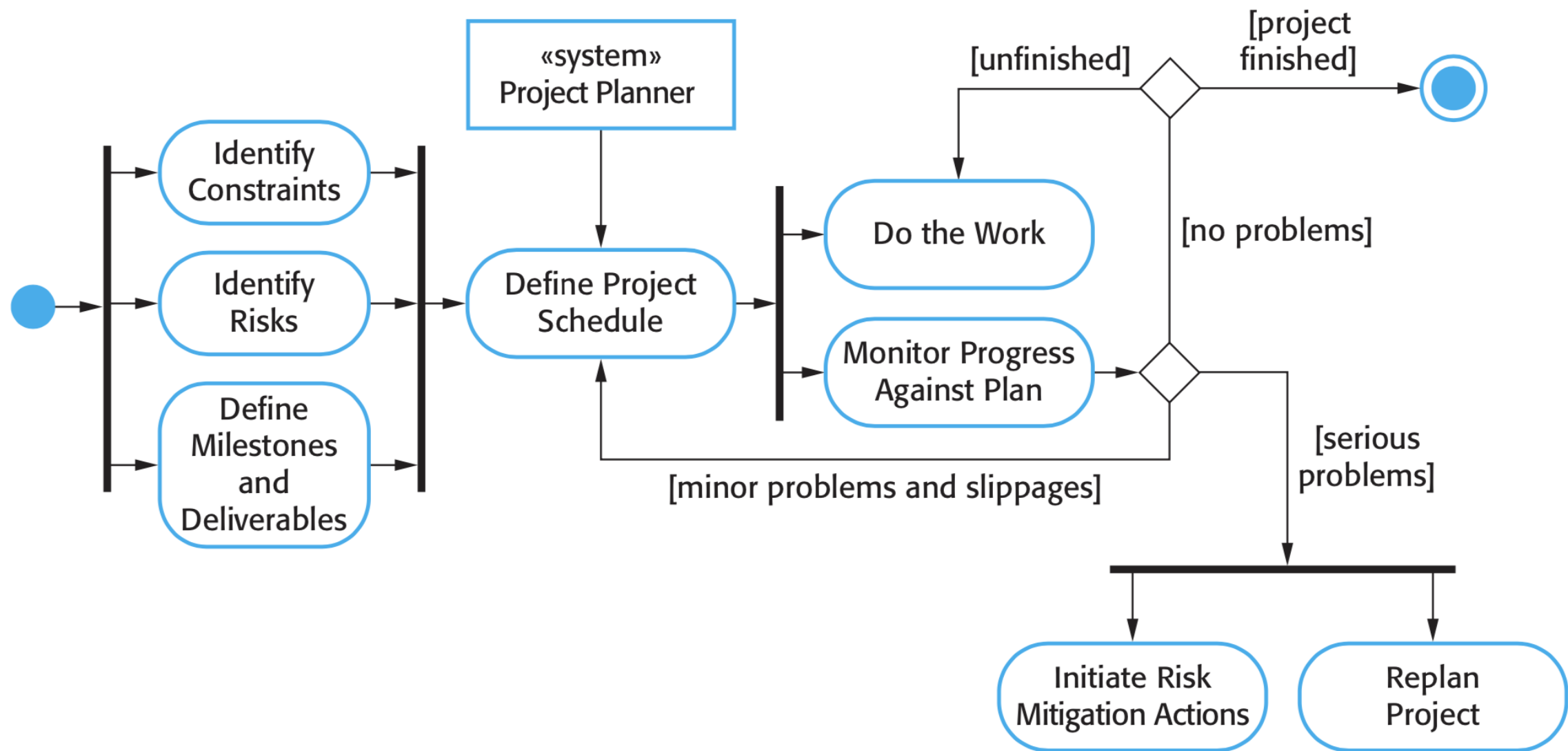
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Project Planning Process

Project costs:

- Effort costs (person-weeks/months/years)

- Hardware and Software costs
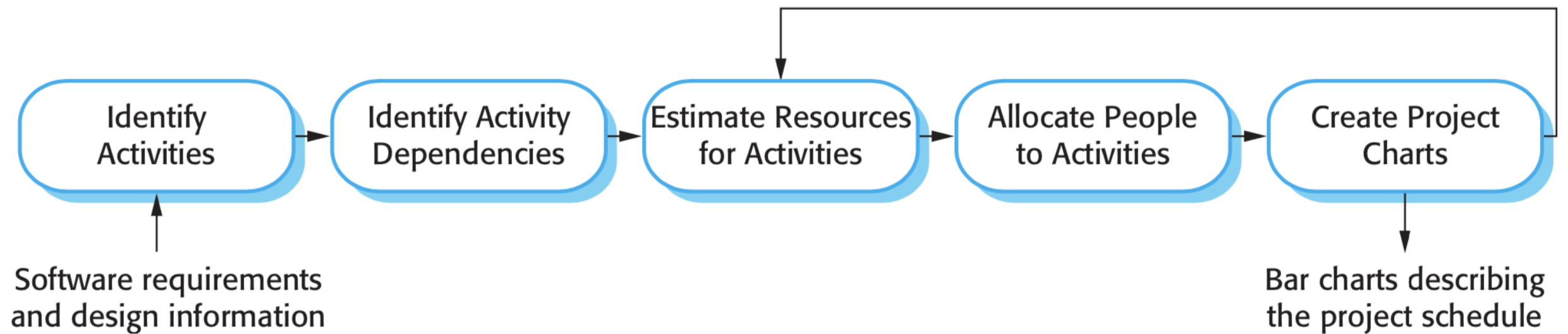
- Travel and Training costs

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Project Planning Process – Plan Driven Development

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Scheduling

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Scheduling: basic elements

Project activities (tasks) are the basic planning element. Each activity has:

1. A **duration** in calendar days or months.

2. An **effort estimate**, which reflects the number of person-days or person-months to complete the work.

3. A **deadline** by which the activity should be completed.

4. A **defined endpoint**. This represents the tangible result of completing the activity. This could be a document, the holding of a review meeting, the successful execution of all tests, etc.
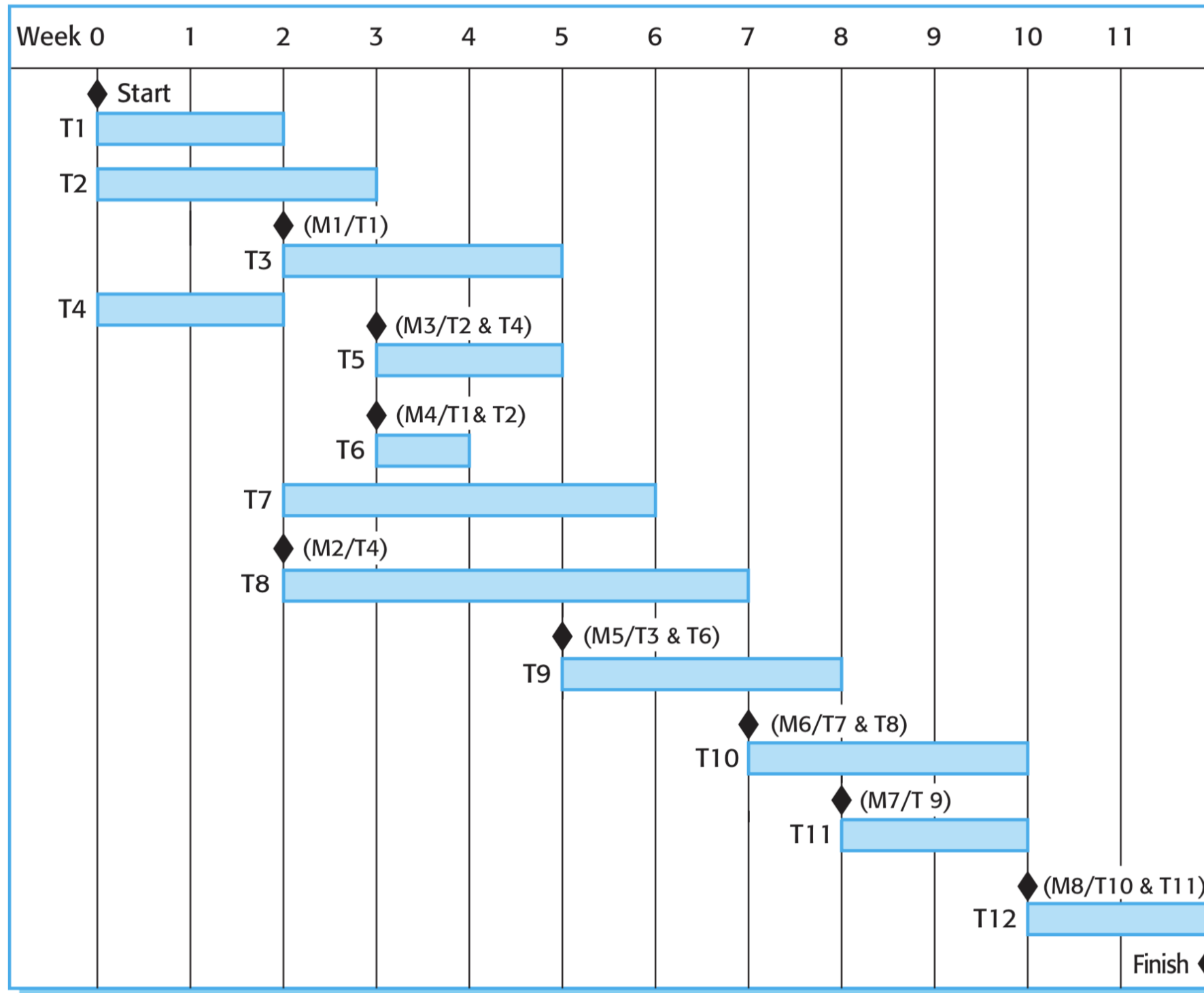
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Scheduling: spreadsheet presentation

Task	Effort (person-days)	Duration (days)	Dependencies
T1	15	10	
T2	8	15	
T3	20	15	T1 (M1)
T4	5	10	
T5	5	10	T2, T4 (M3)
T6	10	5	T1, T2 (M4)
T7	25	20	T1 (M1)
T8	75	25	T4 (M2)
T9	10	15	T3, T6 (M5)
T10	20	15	T7, T8 (M6)
T11	10	10	T9 (M7)
T12	20	10	T10, T11 (M8)

milestone

Neuro
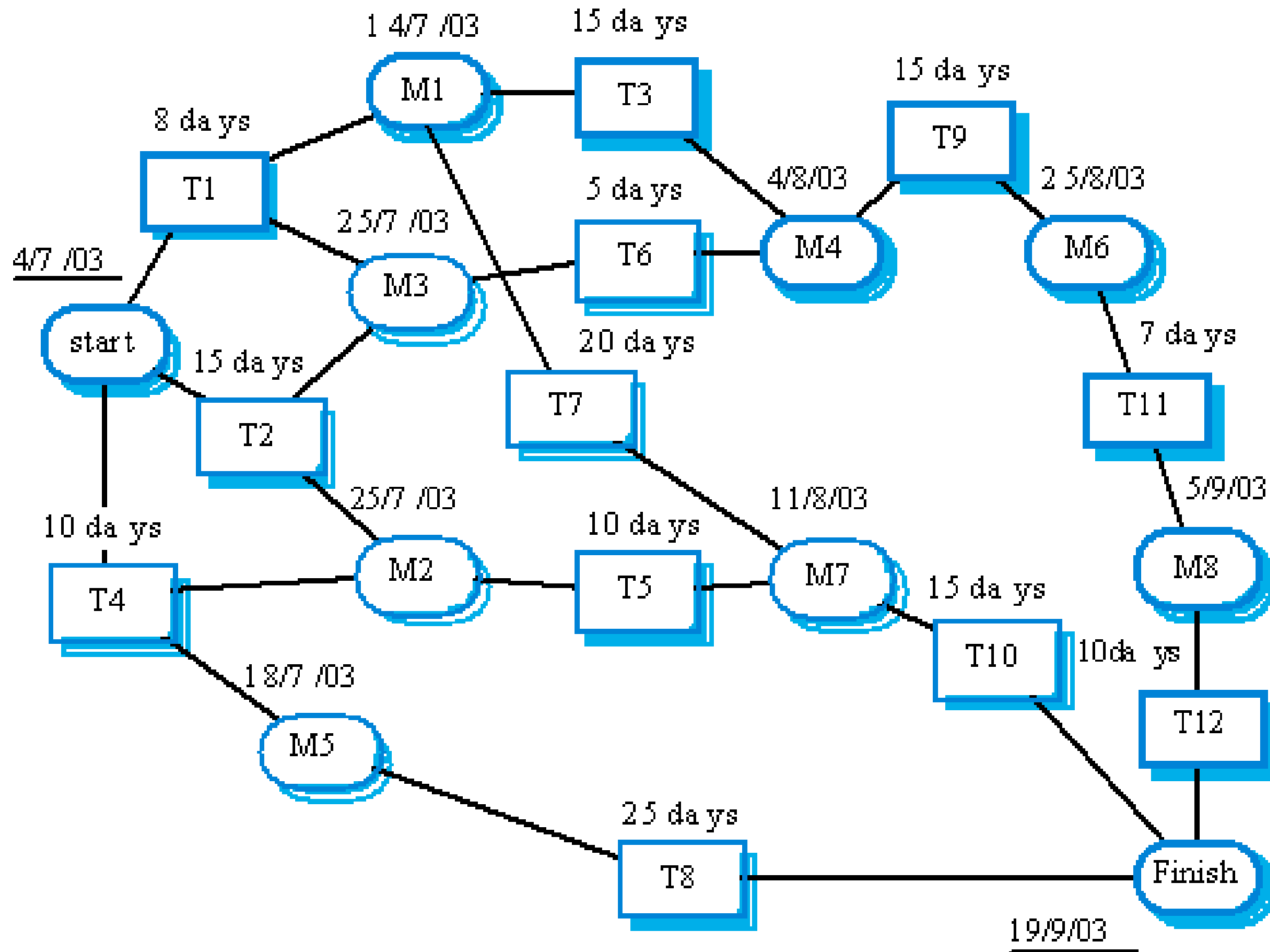& Biomorphic
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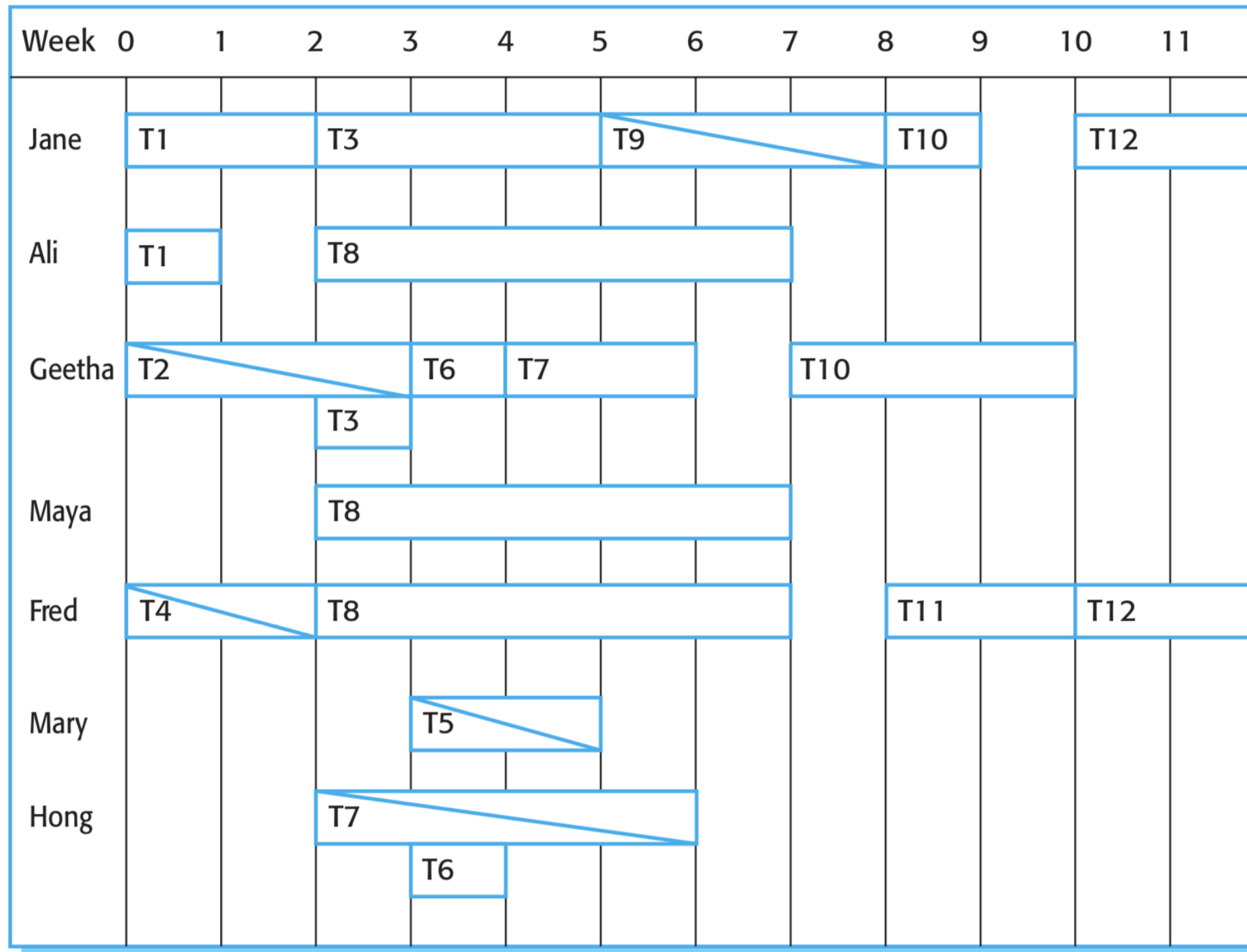
Scheduling: bar chart presentation (Gantt)

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Scheduling: activity network presentation

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Scheduling: staff allocation chart

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Agile planning (XP)

1. Release planning

2. Iteration planning