# PROBLEM STATEMENT (CREATING AN ACTIVITY NETWORK DIAGRAM)

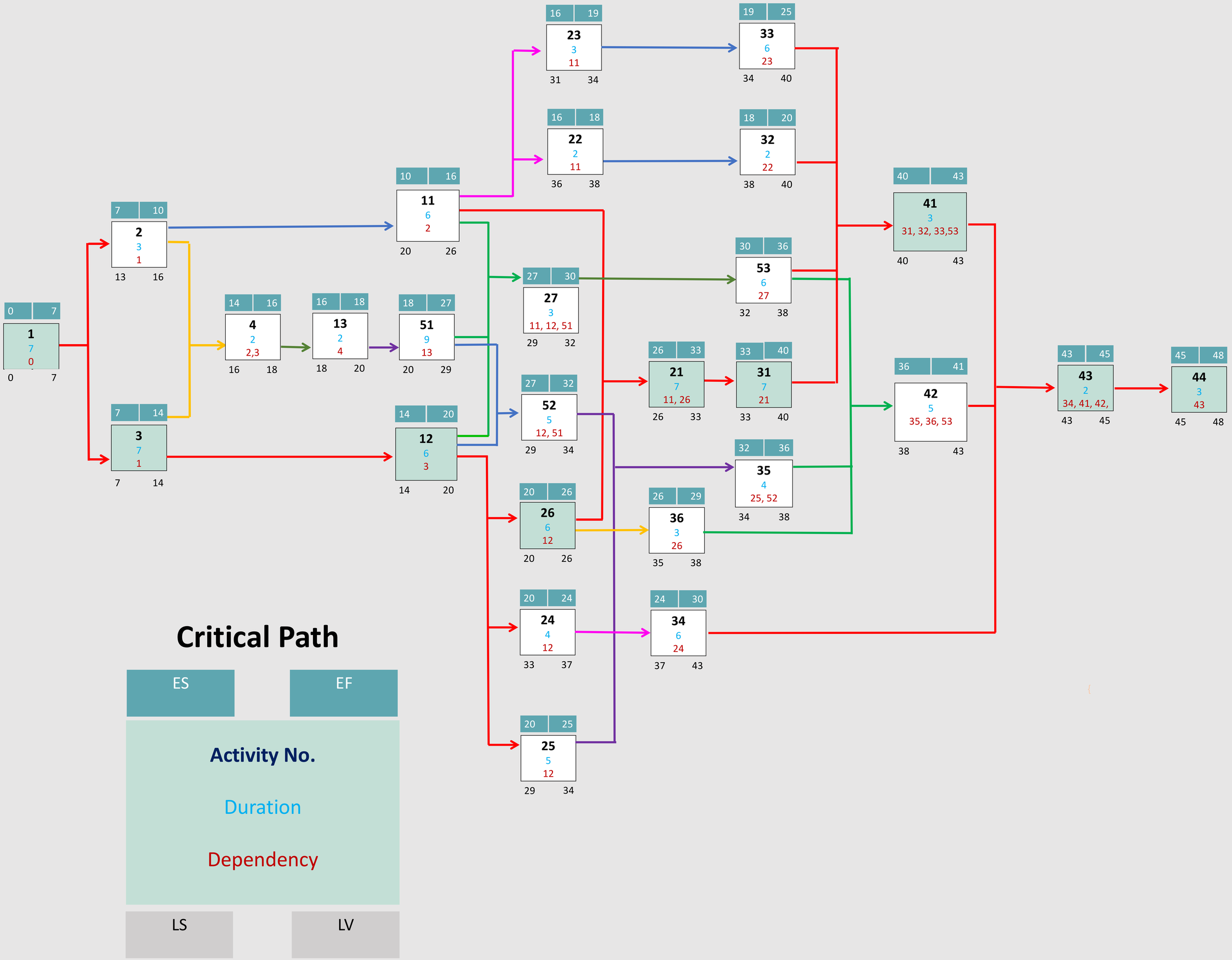
In this example exercise, I am tasked with managing the development of a new mobile phone model. My goal is to create an efficient project schedule by designing an activity network diagram. This diagram will visualize all project tasks, their durations, and dependencies, helping me identify the **critical path** — the longest sequence of dependent activities that determines the shortest possible project duration.

The activity network diagram below illustrates the flow and dependencies of the project tasks. Using this diagram, I will:
**1. Identify the critical path**: Determine the longest sequence of dependent tasks that defines the minimum time required to complete the project.
**2. Analyze task dependencies**: Ensure all activities are correctly sequenced for efficient project management.
This exercise serves as a practical example of how to approach project scheduling and the importance of understanding the critical path for timely project completion.

| ACTIVITY NUMBER | ACTIVITY NAME | DEPENDENCY | DURATION (WEEKS) |
|---|---|---|---|
| **Requirement Definition** | | | |
| 1 | Overall | - | 7 |
| 2 | Hardware | 1 | 3 |
| 3 | Software | 1 | 7 |
| 4 | Market research | 2,3 | 2 |
| **Content Definition** | | | |
| 11 | Hardware | 2 | 6 |
| 12 | Software | 3 | 6 |
| 13 | Market research | 4 | 2 |
| **Planning** | | | |
| 21 | Circuits | 11, 26 | 7 |
| 22 | Battery | 11 | 2 |
| 23 | Screen | 11 | 3 |
| 24 | Shell | 12 | 4 |
| 25 | User Interface | 12 | 5 |
| 26 | Functionality | 12 | 6 |
| 27 | Camera | 11, 12, 51 | 3 |
| **Implementation** | | | |
| 31 | Circuits | 21 | 7 |
| 32 | Battery | 22 | 2 |
| 33 | Screen | 23 | 6 |
| 34 | Shell | 24 | 6 |
| 35 | User Interface | 25, 52 | 4 |
| 36 | Functionality | 26 | 3 |
| **Integration** | | | |
| 41 | Hardware | 31, 32, 33, 53 | 3 |
| 42 | Software | 35, 36, 53 | 5 |
| 43 | Entire device | 41, 42, 34 | 2 |
| 44 | Testing | 43 | 3 |
| **Sub-contract** | | | |
| 51 | Market research implementation | 13 | 9 |
| 52 | Games (planning and implementation) | 12, 51 | 5 |
| 53 | Camera implementatons | 27 | 6 |

# DESIGNING A NEW MOBILE PHONE MODEL

## ACTIVITY NETWORK




## Critical Path

ES | EF

**Activity No.**

Duration

Dependency

LS | LV