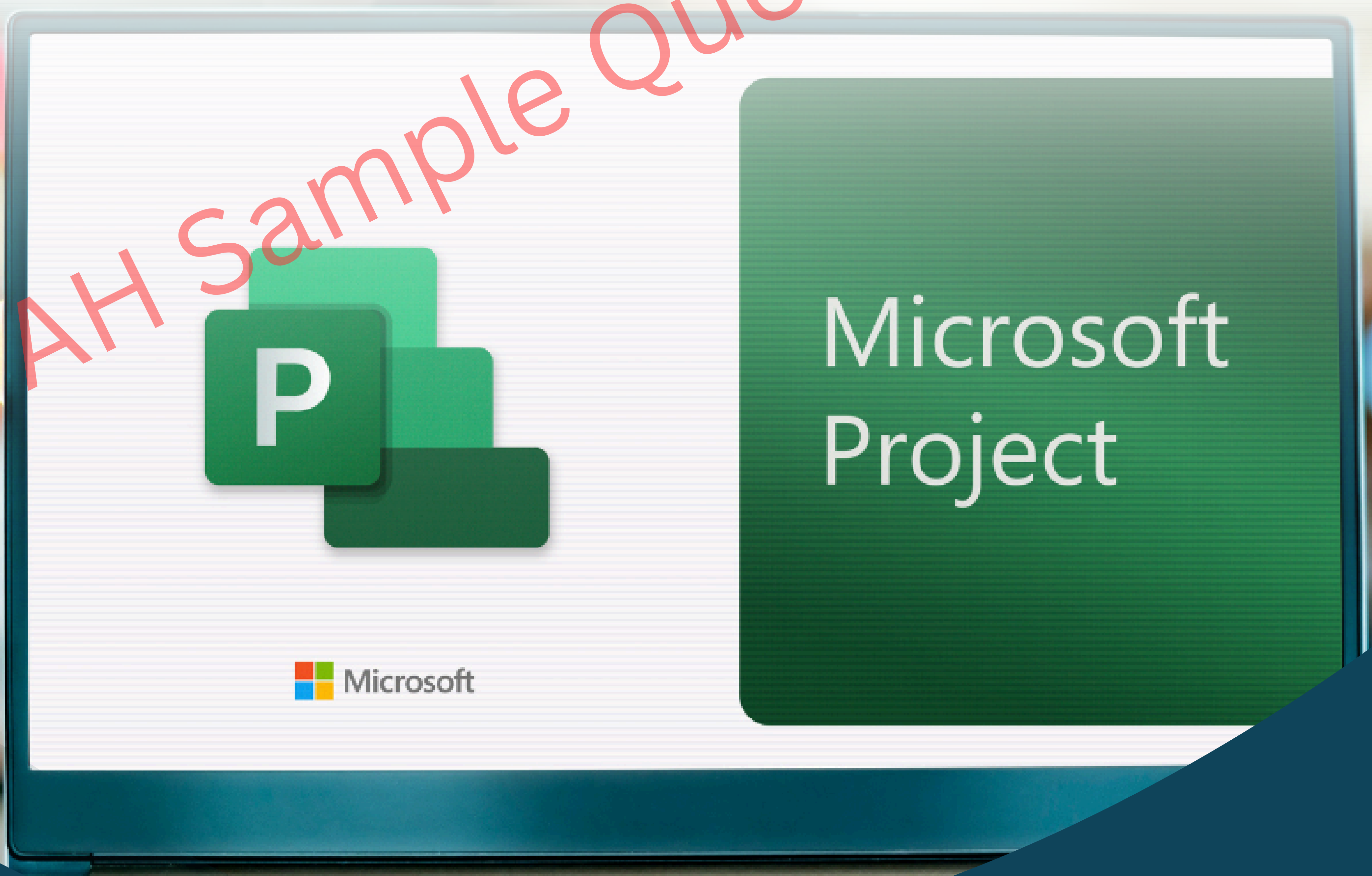


MS PROJECT ASSIGNMENT



Banana Computer Case (for MS Project)

Banana Computer designs and manufactures high tech devices for public consumption. Currently, the Banana executive team is considering the development of a new version of their popular smartphone. As with all their products, they intend to design smartphones to meet current trends and manufacture the device in house to maintain quality standards. Estimates have been made regarding the development project to take it to the point of operational manufacture. The estimates are based on the results of the projects for the two prior versions. The company requires meeting the product specifications, prefers to complete the project as close to schedule as possible, and is willing to assume some additional costs if necessary to meet a tighter schedule.

Part 1. Use the information provided in Table 1 to develop the project schedule. Assume that the project will begin on July 1, 2024. A standard work week is to be applied to the schedule with the only recognized holidays being New Year's Day, MLK Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day and the day after, and December 25th and 26th. If a holiday falls at the weekend, the employees are out of luck. Lags and times units are shown in the notes to Table 1. First, develop the schedule without considering resources. Next, add the resources and determine the shortest feasible schedule as constrained by the resources in Table 2 – assume duration-based scheduling. Ensure that no resources are overallocated. Assume that tasks cannot be split. What would you say to the executives about the schedule and any resource issues associated with the schedule. What is the project finish date? Illustrate the critical path in the Gantt chart.

Table 1. Activity requirements

| Task ID | Task Description | Duration (Days) | Effort (Hours) | Maximum Resources (Actual resource allocation needed may be lower) | | | | |
|---------|-------------------------------|-----------------|----------------|---|-------------------|-------------------|-------------------------|-------------------------|
| | | | | Market Researchers | Product Designers | Quality Engineers | Manufacturing Engineers | Acquisition Specialists |
| A | Market Study | 25 | 800 | 4 | | | | |
| B | Functional Specifications | 40 | 2400 | 1 | 4 | 2 | 1 | 1 |
| C | Manufacturing Planning | 20 | 720 | | | 2 | 4 | |
| D | Product Feature Selection | 10 | 740 | 2 | 3 | 2 | 2 | .25 |
| E | Develop Marketing Plan | 15 | 360 | 4 | | | | |
| F | Design Manufacturing Process | 30 | 1200 | | 1 | 2 | 4 | |
| G | Detailed Smartphone Design | 50 | 2900 | 2 | 4 | 2 | 2 | .25 |
| H | Prototype Testing | 10 | 400 | | 3 | 2 | | |
| I | Finalize Product Design | 25 | 2000 | 2 | 3 | 3 | 2 | |
| J | Order Parts | 7 | 28 | | | | | 1 |
| K | Order Manufacturing Equipment | 14 | 56 | | | | | 1 |
| L | Install Equipment | 35 | 2240 | | 1 | 3 | 4 | |

E.g. Task A will take 25 days to complete with 4 Market Researchers assigned, with a total effort of 800 hours

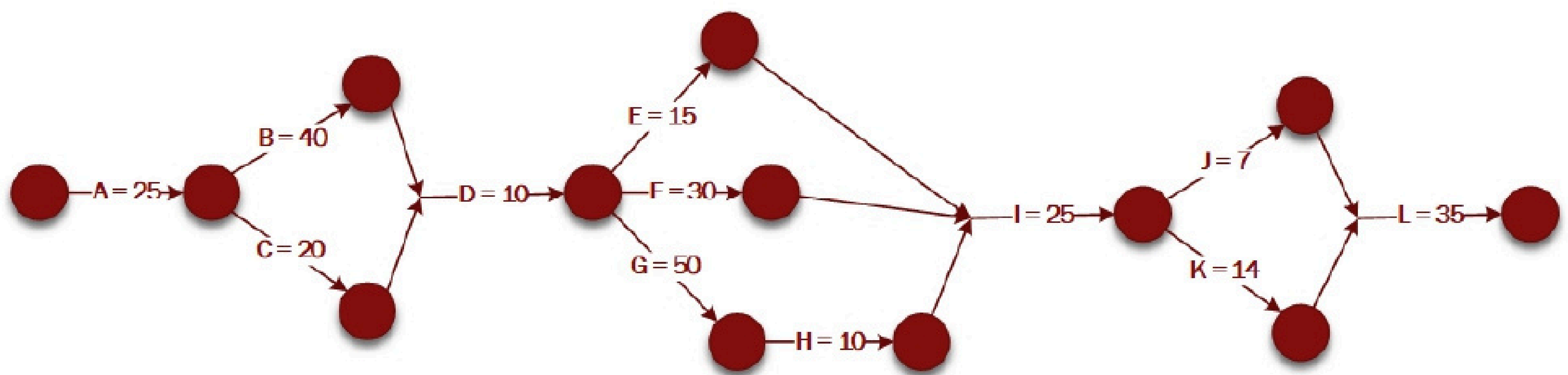


Figure 1: Activity Network Diagram

Table 2. Resources Available for Project Duration

| Resource | \$/hour | Assigned to project |
|-------------------------|---------|---------------------|
| Market Researchers | 60 | 4 |
| Product Designers | 100 | 4 |
| Quality Engineers | 80 | 4 |
| Manufacturing Engineers | 90 | 4 |
| Acquisition Specialists | 60 | 1 |

Part 2. The Banana executives request that something be done to complete the project earlier using only internal resources. Other project managers pool their free talent and make additional resource units available to you for the smartphone project. The available additional resources are given in Table 3. Use only those necessary; costs incur at 120% of the normal rate. What would you say to the executives with supporting documentation that describes your proposed solution to reducing the duration of the project. What is the revised project finish date?

Table 3. Additional Resources Available

| Task | Additional Resources |
|----------------------------|---|
| Develop Marketing Plan | 2 Market Researchers |
| Detailed Smartphone Design | 1 Product Designer, 1 Quality Engineer |
| Install Equipment | 1 Manufacturing Engineer, 1 Quality Engineer |

Part 3. Having gone with the solution from part 2, assume that progress on tasks will appear as in Table 4. Tasks not listed have not yet started. What would you write in a memo to the executive team about the status of the project. How would you support your claims. What is the revised end date for the project? What is the revised projected cost?

Table 4. Actual Durations after a few weeks

| Task | Actual Work Complete So Far (Hours) | Remaining Work | Actual Duration |
|-------------------------------|-------------------------------------|----------------|-----------------|
| Market Study | 736 | 0 | 23 |
| Functional Specifications | 2,040 | 0 | 34 |
| Manufacturing Planning | 828 | 0 | 23 |
| Product Feature Selection | 1,110 | 0 | 15 |
| Develop Marketing Plan | 0 | 360 | 15 |
| Design Manufacturing Process | 440 | 1000 | 36 |
| Detailed Smartphone Design | 2,960 | 0 | 40 |
| Prototype Testing | 400 | 0 | 10 |
| Finalize Product Design | 0 | 2000 | 25 |
| Order Parts | 0 | 28 | 7 |
| Order Manufacturing Equipment | 0 | 56 | 14 |
| Install Equipment | 0 | 2240 | 28 |