**ITMM 471/571**

**Spring 2017**

**Homework Assignment 2**

REMINDER: This must be your own work. Do not work on this with classmates.

Project Task Data:

|  |  |  |
| --- | --- | --- |
| Task | Duration in days | Predecessor task(s) |
| A | 10 | None |
| B | 12 | A |
| C | 8 | B |
| D | 4 | B |
| E | 8 | C |
| F | 6 | C, D |
| G | 4 | E, F |
| H | 8 | F |
| I | 6 | G, H |
| J | 12 | E |
| K | 10 | H |
| L | 10 | I, J, K |

Part I. Develop a precedence (PERT) diagram.

Using the data presented in the table above, develop a precedence diagram (like the one we did on the whiteboard in class on Feb 7) which depicts both early start and finish days as well as late start and finish days. (Hint – use landscape orientation if using software to create the chart.) Also - calculate slack time for each task.

Use the following diagramming format for each task.

|  |  |  |
| --- | --- | --- |
| ES | Duration | EF |
| Task ID | | |
| LS | Slack | LF |

Use arrows to show predecessor/successor task relationships.

Part II. Answer the following questions.

1. Identify the critical path(s) of this project. Use this format “Z – Q – T - W” etc.
2. How long (in days) is the critical path?
3. What is the shortest possible time it will take to complete this project given these task estimates?
4. Which task(s) would be good candidates to assign to more junior team members? Why?
5. If task G takes 6 days to complete (but all other task durations stay the same), what would the impact on the project’s end date be?
6. If task E finishes in 6 days, (but all other task durations stay the same) what would the impact on the project’s end date be?
7. If the project sponsor wants the overall project schedule shortened by 5 days, what would you do to condense the schedule?