Review Questions:

1. What is a critical path method (CPM)? What are the 2 different network diagramming technique to identify the critical? Which one do project management softwares use?
2. What are these terms?
   1. slack
   2. overhead
   3. duration
   4. effort
   5. buffer (feeding buffer, project buffer)
3. How can a project manager do time estimation? Please name a few models and describe the main points for each.
4. What are the pros and cons for each time estimation model? How would you go about choosing the time estimation model for your project?
5. What are the three types of dependencies? Please give example of each
6. What are these laws?
   1. Murphy’s Law
   2. Brooks’ Law
   3. Parkinson’s Law
7. Please find the critical path from the table below:

|  |  |  |
| --- | --- | --- |
| Activity | Immediate Predecessors | Expected Duration (Days) |
| A | - | 4 |
| B | - | K |
| C | A | 8 |
| D | B | 3 |
| E | C,D | J |
| F | E | 5 |
| G | E | 4 |
| H | E | 3 |

1. To complete a rocket assembly at NASA, the engineers laid out the following tasks and came up with the time estimates for each activity below

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Activity | Immediate Predecessors | A | M | b |
| A | - | 1 | 2 | 3 |
| B | - | 2 | 4 | 6 |
| C | - | 4 | 5 | 6 |
| D | A,B | 2 | 3 | 4 |
| E | A | 4 | 6 | 8 |
| F | C,D | 1 | 2 | 3 |
| G | E,F | 1 | 2 | 3 |
| H | G | 1 | 2 | 3 |

Please calculate the expected time and variance for each activity. What is expected project duration? What is the expected variance?

Which of the above activities are on the critical path?

In order to “crash” the schedule, in which activity (activities) would you put in more resources?