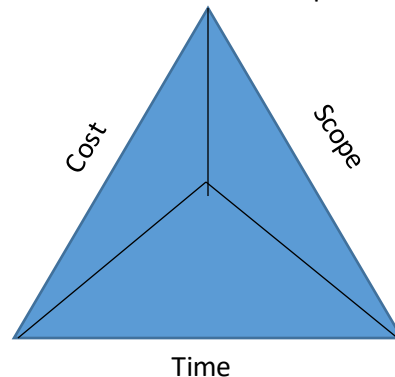# Homework – 3
(10 points)

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Submission: Save this Word document with your answers as a PDF file and upload the PDF file to Canvas.

1. Draw a project triangle that shows the relationship among project cost, scope, and time.

2. Write the script for a one-minute explanation of basic project management concepts.
   Project Management can be extremely simple to understand if you look at the basics of what make it function, starting with project planning. Planning includes identifying your tasks and estimating their completion time and completion cost. Basically, outline what you need to get done, and how much it will cost to get it done. The next basic is called project scheduling, a simple concept of creating a timetable or a chart that identifies who will be working on what task, and the dependencies they will need to get their task done. Next, we have project monitoring, a concept where the project manager supervises their team's workload. As a manager, you need to follow your team's progress and take corrective action when they go astray or become too slow to meet their timetable. Lastly, project management includes reporting. Providing regular reports of progress to everyone, including your management, the team, and anyone using the project. This keeps everyone up to date on the situation and makes sure everyone knows what place they are in.

3. Explain the differences between a Gantt chart and a PERT/CPM chart.
   A Gantt chart features horizontal bars that have tasks split into individual time slots with specifics attached. A PERT/CPM chart can convey specific dates and times, as well complex task patterns by using a vertical bubble/pathway method.

4. What are the three main task patterns types? Provide an example of each.
   Dependent tasks – one task depends on the completion of another. Task 2 cannot begin until Task 1 is done. An example would be a relay race, where racer 2 cannot begin running until racer 1 has reached their zone.
   Multiple successor tasks – when two or more tasks can begin once a predecessor task has finished. For example, in a team of 3 people working on a document where only one person has administrative privileges, the two people without privileges cannot begin working until the

person with them allows it, but once they do, both of the other people can begin working.
Multiple Predecessor Tasks – **when a task cannot begin without two or more prior tasks completing. For instance, the in a relay race consisting of three runners, the third and final runner cannot begin until both runners before them have finished.**

5. Why is the critical path important?
    The critical path is a series of tasks that the entire project relies on being completed efficiently and on time. If any of the tasks in the critical path fail or are delayed, the entire project fails or is delayed, like a butterfly effect.

6. What is a structured walk-through?
    A structured walk-through is when members of a team review the other members' progress or work. For instance, team members 1, 2, 3, and 4 review and critique team member 5's progress on a task. Also considered a form of peer review.

7. What are the two main ways project status is reported to management?
    Project managers have the project status reported to them either via project status meetings, where the entire team puts together a summary or presentation, or via project status reports, where the team will either write a report or deliver it verbally to the management.

8. What is a significant advantage of project management software?
    Project management software provides project managers with every tool they could possibly need just one or two locations/programs. Plans, schedules, monitoring methods, and reports can all be funneled into one or two specific areas that make it easy to communicate, keep up to date, and work together as a team to stay on top of things.

9. List the basic tasks in a risk management plan.
    A risk management plan contains a review of the entire project's scope, stakeholders, budget, schedule, and other internal/external factors that could affect it. It will define roles, responsibilities, methods, and procedures, as well as categories of risk and contingency plans should things not go accordingly.

10. Explain Brooks' law.
    Brook's Law observed that "adding manpower to a late software project only makes it later." Any further additions to a software project late into the process will need to be trained and instructed on what to do and how to do it, thereby reducing the productivity of the employees who already know what to do.