# SYAD Week 2 Tutorial (Chapter 1)

**Name**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Answer the following short questions:**

1. What is a project manager? What types of skills should a project manager possess?

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| Project Manager Description and Required Skills  A project manager is a systems analyst with a diverse set of skills, responsible for initiating, planning, executing, and closing down a project. This role involves managing a planned undertaking of related activities to reach an objective with a defined beginning and end.  Types of Skills a Project Manager Should Possess:   1. Leadership Skills: A) Influencing activities of others towards a common goal. B) Utilizing intelligence, personality, and abilities to lead. C) Communications. D) Liaison between management, users, and developers. E) Assigning activities. F) Monitoring progress. 2. Management Skills: A) Defining and sequencing activities. B) Communicating expectations. C) Assigning resources to activities. D) Monitoring outcomes. 3. Customer Relations Skills: A) Interpreting system requests and specifications. B) Site preparation and user training. C) Serving as a contact point for customers. 4. Technical Problem Solving Skills: A) Interpreting system requests and specifications. B) Defining activities and their sequence. C) Making trade-offs between alternative solutions. D) Designing solutions to problems. 5. Conflict Management Skills: A) Problem solving. B) Smoothing out personality differences. C) Compromising. D) Goal setting. 6. Team Management Skills: A) Communication within and between teams. B) Peer evaluations. C) Conflict resolution. D) Team building. E) Self-management. 7. Risk and Change Management Skills: A) Environmental scanning. B) Risk and opportunity identification and assessment. C) Forecasting. D) Resource redeployment. |

2. List at least 3 activities of a project manager and the skill associated with that activity.

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| Here are three activities of a project manager along with the associated skills:   1. **Activity: Leadership**   Skills: **Communications**: The ability to clearly convey project goals and expectations.  **Liaison between management, users, and developers**: Ensuring seamless communication  between different stakeholders. **Assigning activities and monitoring progress**: Effectively  distributing tasks and tracking project status.   1. **Activity: Management**   Skills: **Defining and sequencing activities**: Breaking down the project into manageable tasks and organizing them logically. **Assigning resources to activities**: Allocating resources efficiently to maximize productivity. **Monitoring outcomes**: Regularly assessing project progress against set objectives.   1. **Activity: Customer Relations**   Skills: **Interpreting system requests and specifications**: Understanding customer needs and documenting them accurately. **Site preparation and user training**: Ensuring that customers are prepared for and can effectively use project deliverables. **Contact point for customers**: Serving as a primary point of contact for addressing customer queries and concerns. |

3. List the six project initiation activities.

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| The specific six activities for project initiation are not explicitly detailed in the search results provided. However, project initiation typically involves the following general activities:   1. **Defining Project Scope**: Identifying objectives, deliverables, and scope. 2. **Conducting a Feasibility Study**: Assessing whether the project is viable and feasible. 3. **Developing a Project Charter**: Documenting project objectives, roles, and overall approach. 4. **Identifying Stakeholders**: Recognizing individuals who have a vested interest in the project. 5. **Developing a Preliminary Project Schedule**: Creating an initial timeline for the project. 6. **Establishing a Budget**: Allocating financial resources for the project. |

4. What is a project charter? Describe elements that may be a part of the project charter.

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| **Project Charter:** A project charter is a foundational document that outlines the project's objectives, scope, stakeholders, and overall approach. It is typically prepared during the project initiation phase and serves as a formal authorization of the project. The charter marks the beginning of a project by recording and summarizing the initial scope, objectives, and stakeholders.  **Elements of a Project Charter**  The elements that may be included in a project charter are as follows:   1. **Project Title and Date of Authorization**:    * The official name of the project. The date it was approved or authorized. 2. **Project Manager's Name and Contact Information**:    * Details of the project manager responsible for the project. 3. **Customer's Name and Contact Information**:    * The client or customer sponsoring the project. 4. **Projected Start and Completion Dates**:    * The planned timeline for the project's beginning and end. 5. **Key Stakeholders, Roles, and Responsibilities**:    * Identification of all stakeholders involved and their roles in the project. 6. **Project Objectives and Description**:    * A clear statement of what the project aims to achieve. A brief overview of the project scope and deliverables. 7. **Key Assumptions or Approach**:    * Any critical assumptions made at the outset. The general methodology or approach to be used. 8. **Signature Section for Key Stakeholders**:    * Formal sign-off from stakeholders to ensure agreement and commitment. |

5. What does project planning involve?

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| **Project Planning** is the second phase of the project management process, following initiation. It involves several key activities to ensure that the project is well-defined and prepared for execution. Here are some of the main components involved in project planning:   1. **Defining Clear Tasks**: Breaking down the project into discrete, manageable activities that are necessary to achieve project objectives. 2. **Work Breakdown Structure (WBS)**: A hierarchical decomposition of tasks and deliverables to organize the project into a logical structure. 3. **Scheduling**: Creating a detailed project timeline, often using techniques like Gantt charts or network diagrams to visualize task sequences and dependencies. 4. **Resource Allocation**: Assigning necessary resources such as personnel, materials, and equipment to each task. 5. **Risk Management**: Identifying potential risks and developing strategies to mitigate them. 6. **Budgeting**: Establishing a budget plan and allocating financial resources accordingly. |

6. What is COCOMO and how is it used?

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| **COCOMO (Constructive Cost Model)** is a widely used software estimation model that helps project managers estimate the effort required to complete a software project. Developed by Barry Boehm, COCOMO helps predict the cost and duration of software projects by considering various parameters such as the size of the software and the complexity of the project.  **Key Components of COCOMO:**   * **Basic COCOMO**: Uses the size of the software in lines of code to estimate effort. * **Intermediate COCOMO**: Adjusts the basic model with factors like personnel capability and hardware constraints. * **Detailed COCOMO**: Provides a more granular breakdown by detailing each phase of the software development process.   **How COCOMO is Used:**   1. **Estimating Project Effort**: Calculates the number of person-months required for the project based on its complexity and size. 2. **Scheduling and Budgeting**: Helps set realistic timelines and allocate resources accordingly. 3. **Project Planning**: Guides detailed planning by providing a basis for resource allocation and task management. |

7. List the key difference between a Gantt chart and a network diagram.

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| | **Feature** | **Gantt Chart** | **Network Diagram** | | --- | --- | --- | | Visualization | Represents tasks as horizontal bars proportional to their duration. | Depicts tasks as nodes and sequences/dependencies as arrows. | | Purpose | Focuses on task duration and scheduling. | Emphasizes task relationships and dependencies. | | Complexity Display | Shows dependencies but emphasizes time and sequence. | Clearly illustrates complex dependencies and sequences. | | Task Representation | Tasks are bars on a timeline. | Tasks are represented by nodes or rectangles. | | Ease of Use | Easy to understand and visually intuitive. | Can be more complex to interpret for beginners. | | Use Case | Suitable for simple to moderately complex projects. | Ideal for projects requiring detailed dependency analysis. | |

8. Define and describe the PERT technique.

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| **PERT (Program Evaluation and Review Technique)** is a method used to analyze and represent tasks involved in completing a project, focusing on dependencies and time requirements. It is particularly useful for projects where the time needed to complete each task is uncertain.  **Key Components:**   * **Event and Activity Representation**: Activities are represented as arrows leading from one event (node) to another, showing the start and end of each task. * **Three Time Estimates**: For each activity, PERT uses three time estimates:   1. **Optimistic Time (O)**: The minimum time required (everything goes right).   2. **Pessimistic Time (P)**: The maximum time required (everything goes wrong).   3. **Most Likely Time (M)**: The probable time for completion. * **Expected Time Calculation**: The weighted average of the three estimates gives the expected time: **Expected Time = (O + 4M + P) / 6**   **Use Case:**  PERT is effective for high-risk or complex projects where uncertainties are significant. It helps identify critical paths and schedule tasks effectively, enabling better project management and risk assessment. |