1. **What is SDLC?**

* Software Development Life Cycle is a structured process used to develop software efficiently and systematically. It consists few steps each with specific objectives and deliverable.

1. **Requirement Analysis Phase:**

* **Explanation:** 
  + Gathering and analyzing user needs and expectations.
  + Documenting requirements in clear terms.
  + Identifying feasibility and constraints.
* **Documents:**
  + Business Requirement Document (BRD)
  + Software Requirement Specification (SRS)
  + Use Case Document
  + Functional Requirement Specification (FRS)
  + Requirement Traceability Matrix (RTM)

1. **Planning Phase:**

* **Explanation:** 
  + Developing a project plan, including timelines, resources, and budget.
  + Defining scope and setting project objectives.
  + Risk assessment and mitigation planning.
* **Documents required:** 
  + Project Plan
  + Test Strategy Document
  + Risk Management Plan
  + Resource Allocation Document

1. **Design Phase:**

* **Explanation:**
  + Creating the system architecture and detailed design specifications.
  + Dividing the project into modules or components.
  + Designing user interfaces, and workflows.
* **Documents:**
  + High-Level Design (HLD)
  + Low-Level Design (LLD)
  + Architectural Design Document
  + Database Design Document
  + UI/UX Design Specifications

1. **Implementation (Coding/Development) Phase:**

* **Explanation:** 
  + Writing code based on design documents.
  + Following coding standards and best practices.
  + Unit testing at the developer level.
* **Documents:**
  + Source Code
  + Code Review Checklist
  + Version Control Document
  + API Documentation

1. **Testing Phase:**

* **Explanation:** 
  + Verifying and validating the software to ensure it meets requirements.
  + Conducting functional, integration, performance, and user acceptance testing.
  + Identifying and fixing bugs.
* **Documents:** 
  + Test Plan
  + Test Cases/Test Scenarios
  + Defect Report
  + Test Execution Report
  + Test Summary Report

1. **Deployment Phase:**

* **Explanation:**
  + Delivering the software to the production environment.
  + Performing final checks and resolving deployment issues.
  + Providing initial support to users.
* **Documents:**
  + Deployment Plan
  + Release Notes
  + Configuration Management Document
  + User Manual/Installation Guide

1. **Maintenance Phase:**

* **Explanation:** 
  + Monitoring performance and ensuring system stability.
  + Addressing user feedback and fixing any bugs.
  + Updating the software with new features or enhancements as needed.
* **Documents:** 
  + Issue Tracker Document
  + Change Request Document
  + Performance Monitoring Report
  + Root Cause Analysis (RCA) Report