

Lesson 5

1. Define what SDLC is and how it is important in Software Engineering.

SDLC stands for Software Development Life Cycle, and it is a process for creating software products that are reliable, efficient, and of high quality. It is a systematic approach to software design, development, testing, deployment, and maintenance.

SDLC is important in software engineering because it provides a structured and organized way of creating software that ensures that all necessary steps are taken and all necessary information is considered. It helps to ensure that the software is delivered on time and within budget, and that it meets the needs of the stakeholders and users. Additionally, SDLC helps to identify and mitigate risks early in the development process, which can help to reduce the costs of fixing problems later on.

The SDLC process is typically composed of several phases, including:

- Requirements gathering and analysis
- Design
- Development
- Testing
- Deployment
- Maintenance

Each phase of the SDLC has its own set of activities and outputs, and the overall process is iterative and adaptive, allowing for changes and improvements to be made as necessary.


In summary, the SDLC is important in software engineering because it provides a systematic and organized approach to software development that helps to ensure the quality and reliability of the software product and reduces the risk of failure.

2. Discuss the steps in SDLC Framework

The steps in an SDLC framework typically include:

Requirements Gathering and Analysis: This phase involves gathering information about the software requirements from stakeholders, such as customers, users, and business analysts. The requirements are analyzed to determine their feasibility, priority, and potential impact on the software.

- Design: In this phase, the software design is created based on the requirements gathered in the previous phase. This includes creating a high-level architecture, defining modules, and developing detailed design specifications.

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- **Development:** During this phase, the software is actually developed and coded. The developers use the design specifications created in the previous phase as a guide.
 - **Testing:** In this phase, the software is tested to ensure that it meets the requirements and that it is free of defects and errors. Testing may include unit testing, integration testing, system testing, and acceptance testing.
 - **Deployment:** Once the software has been tested and found to be acceptable, it is deployed into a production environment. This may involve installing the software on servers, configuring the environment, and performing any necessary data migrations.
 - **Maintenance:** The final phase of the SDLC is maintenance, which involves ongoing support and improvement of the software. This may include fixing bugs, making improvements, and adding new features.
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