**Name: Alikarim Ashraf**

**Student ID: 20231-34974**

**System development life cycle**

The System Development Life Cycle (SDLC) is a methodical approach to creating and managing information systems, comprising distinct phases with specific tasks and objectives.

**Phases:**

* **Planning:**
  + Establishing project goals, scope, timeline, and budget.
  + Defining roles for key stakeholders.
* **Feasibility Study:**
  + Assessing the technical, operational, and financial viability of the project.
  + Making decisions based on the study's outcomes.
* **System Design:**
  + Creating a detailed blueprint of the system's architecture.
  + Specifying hardware, software, databases, user interfaces, and network components.
* **Implementation (Coding):**
  + Crafting the system's code in accordance with design specifications.
  + Performing unit testing to ensure individual components function correctly.
* **Testing:**
  + Conducting various levels of testing to identify and rectify defects.

This includes unit testing, integration testing, system testing, and acceptance testing.

* **Deployment:**
  + Releasing the system to users after successful testing.
  + Involving activities such as data migration, training, and ensuring a smooth transition.
* **Maintenance and Support**
  + Providing ongoing support and addressing issues during the system's operational phase.

**Characteristics:**

* **Structured Approach:**
  + SDLC employs a methodical and organized approach in the development and administration of information systems.
* **Phased Development:**
  + It is categorized into distinct phases, each with its unique set of tasks and goals, ensuring a systematic progression.
* **Clear Planning:**
  + Stresses the significance of meticulous planning, encompassing the definition of project objectives, scope, timeline, and budget.
* **Feasibility Analysis:**
  + Encompasses a feasibility study to evaluate the project's technical, operational, and financial viability.
* **Comprehensive Design:**
  + Encompasses the creation of an intricate and detailed blueprint for the system's architecture, outlining specifications for hardware, software, and other elements.

**DIAGRAM:**

