**CHRISPUS MUTWIRI GITONGA**

**CT102/G/16096/22**

**Developing an accounting system comprises of phases as outlined in systems development life cycle. As a professional systems developer, discuss the major phases of software development.**

* Planning:
  + In this phase, the project objectives, scope, and requirements are defined.
  + Key stakeholders are identified, and their requirements and expectations are gathered.
  + Feasibility studies may be conducted to assess the technical, economic, and organizational feasibility of the project.
  + Project schedules, budgets, and resource requirements are estimated and documented.
* Analysis:
  + During this phase, the requirements gathered in the planning phase are analyzed in detail.
  + Business processes are examined, and functional and non-functional requirements are documented.
  + Use cases, user stories, and other requirement artifacts are created to capture the system's behavior and interactions.
  + Prototypes may be developed to validate requirements and gather feedback from stakeholders.
* Design:
  + The design phase involves transforming the requirements gathered in the analysis phase into a blueprint for the system.
  + Architectural, database, and user interface designs are developed.
  + Technical specifications are created for components, modules, and interfaces.
  + Design decisions regarding technology, frameworks, and platforms are made.
* Implementation (Coding):
  + In this phase, the actual code for the system is developed based on the designs created in the previous phase.
  + Developers write, test, and debug code according to the technical specifications.
  + Coding standards and best practices are followed to ensure code quality and maintainability.
  + Version control systems are used to manage source code changes and collaboration among team members.
* Testing:
  + The testing phase involves verifying that the software meets its requirements and functions correctly.
  + Various types of testing, such as unit testing, integration testing, system testing, and user acceptance testing, are conducted.
  + Defects and issues are identified, reported, and tracked using defect tracking systems.
  + Test cases and test scripts are executed to validate the system's behavior and performance.
* Deployment (Implementation):
  + Once the software has been thoroughly tested and approved, it is deployed into the production environment.
  + Installation procedures are executed to install the software on servers and client machines.
  + Data migration and system configuration tasks may be performed to prepare the environment for production use.
  + User training and documentation are provided to support the transition to the new system.
* Maintenance and Support:
  + The maintenance phase involves ongoing support, maintenance, and enhancement of the software.
  + Bug fixes, updates, and patches are released to address issues discovered after deployment.
  + Changes and enhancements requested by users or stakeholders are evaluated, prioritized, and implemented.
  + Performance monitoring, troubleshooting, and optimization activities are conducted to ensure the continued reliability and performance of the system.