UGANDA CHRISTIAN UNIVERSITY

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REGISTRATION NUMBER: S19B23/119

COURSE: BSCS THREE

COURSE UNIT: SOFTWARE CONSTRUCTION

LECTURER: Mr. SIMON LUBAMBO

QUESTION: WRITE SHORT NOTES ABOUT DESIGN PATTERNS

Design patterns

Design patterns are reusable solutions to common problems that arise when designing software systems.

Design patterns provide developers with a proven set of best practices that can be applied to a variety of situations, making it easier to create maintainable, scalable, and flexible software.

Types of Design Patterns

Design patterns are typically classified into three categories: Creational, Structural, and Behavioural patterns.

Creational Patterns: These patterns focus on the process of object creation, providing a way to create objects more efficiently and in a more flexible manner. These include.

- Singleton pattern
- Factory Method
- Abstract Factory.

Structural Patterns: These patterns are concerned with the composition of classes and objects, helping to form large, complex structures from simple objects. These include.

- Adapter pattern
- Bridge
- Decorator.

Behavioural Patterns: These patterns are used to manage communication and interactions between objects, defining how objects interact and work together to achieve common goals. These include.

- Observer pattern
- Command
- Strategy.