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TOPIC:

Design Pattern

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GROUP:

10B

SUBJECT:

Desarrollo Móvil Integral

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Selection of Design Patterns: Singleton Pattern

The **Singleton pattern** is a creational design pattern that ensures a class has only one instance while providing a global point of access to that instance. This pattern is widely used in scenarios where a single instance of a class is sufficient to coordinate actions across the system.

What is the Singleton Pattern?

The Singleton pattern:

- Restricts the instantiation of a class to one object.
- Provides a centralized, globally accessible instance.
- Ensures controlled access to shared resources.

Benefits of the Singleton Pattern

1. **Controlled Access**:
    - Ensures only one instance exists, useful for managing resources like database connections or configurations.
2. **Global State**:
    - Simplifies the management of a global state shared across different parts of the application.
3. **Memory Efficiency**:
    - Avoids the overhead of creating multiple instances of a resource-heavy object.
4. **Ease of Implementation**:
    - Relatively simple to implement and integrate into most projects.

Why Choose the Singleton Pattern?

Selection: The Singleton pattern is chosen for its ability to provide a single, shared instance efficiently and reliably. It is particularly well-suited for managing system-wide resources, like logging services or configuration settings, ensuring consistency and reducing the complexity of managing multiple instances.