

ASD Exam 2:

Solid Principles:

SRP

Each class has been designed to handle a single part of the functionality:

Summation, Flipper, LogFunction implement the Operation interface for executing operations.

ObjectQueue manages a collection of operations.

OCP

Open for extension but closed for modification:

New operations can be added without changing the existing code by implementing the Operation interface.

ObjectQueue can handle any Operation implementations without modification.

LSP

Derived classes are substitutable for their base classes:

Any class that implements the Operation interface can be used interchangeably in the ObjectQueue.

ISP

The Operation interface ensures that implementing classes only need to provide methods that are necessary for the operation execution.

DIP

High-level modules do not depend on low-level modules. Both depend on abstractions:

ObjectQueue depends on the abstract Operation interface, not the concrete implementations.

Design Patterns

Command Pattern

The Operation interface and its implementations resemble the Command pattern, encapsulating all information needed to perform an action or trigger an event.

Proxy Pattern

The OperationQueueProxy serves as a proxy to OperationQueue, adding a layer for access control and caching without changing the client's code.

Factory Pattern

The OperationFactory for creating instances of operations based on a type . Getting Incorrect Values. This might be due to the way operations are used when created in the factory.