# OOP2\_EX01 Assignment

## Assignment Description

This assignment focuses on Object-Oriented Programming (OOP) principles in C++. You are required to implement classes based on the instructions, using concepts such as inheritance, polymorphism, and other OOP principles.

## System Requirements

* **Programming Language**: C++ (Version 11 or higher recommended)
* **Development Environment**: Visual Studio
* **Required Libraries**: iostream, vector, string

## File Structure

* main.cpp: Main file containing the main() function.
* Manager.cpp / Manager.h: The Manager class that runs the calculator and holds the functions in sharedPtr that it can perform.
* SquaredMatrix.h / SquaredMatrix.cpp: Class that holds the data structure of the matrix calculator.
* Functions.h / Functions.cpp: Base class of all functions so they can be stored in the same vector.
* Id.h / Id.cpp: Function that returns the matrix provided by the user.
* Transfer.h / Transfer.cpp: Function that performs matrix transparency based on the user's input.
* Scal.h / Scal.cpp: Function that returns the matrix after being multiplied by a scalar.
* Add.h / Add.cpp: Function that returns the matrix after combining two matrices by addition.
* Sub.h / Sub.cpp: Function that returns the matrix after combining two matrices by subtraction.
* Comp.h / Comp.cpp: Function that returns the matrix after two action on the same matrix.
* README.docx: This document.

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