

# CS5500 Homework 2: Creational Design Patterns

Samanjate Sood

February 4, 2018

## 5. Analysis

The two design patterns used in the assignment are 1) Factory Method Design Pattern, and 2) Singleton Design pattern.

### 1. Factory Method Design Pattern

This design pattern makes it easy for us to add new products to the system. For example, this assignment we have used a version of a product which supports Infix, Prefix, Number, String, and Variable Expressions. If in the future, we decide to add support for Postfix Expressions, we can simply extend the factory and add the new method, or if want to change the behaviour of the Variable Expression, we can simply override the functionality.

### 2. Singleton Design Pattern

This design pattern restricts the user to use only one instance of a class. In our assignment, we mark the factory's constructor as private and return its instance using a static getter. This prevents the user from creating multiple instances of the factory which provides the same functionality. Thus this gives control to the factory for the instantiation process and the flexibility to change it.