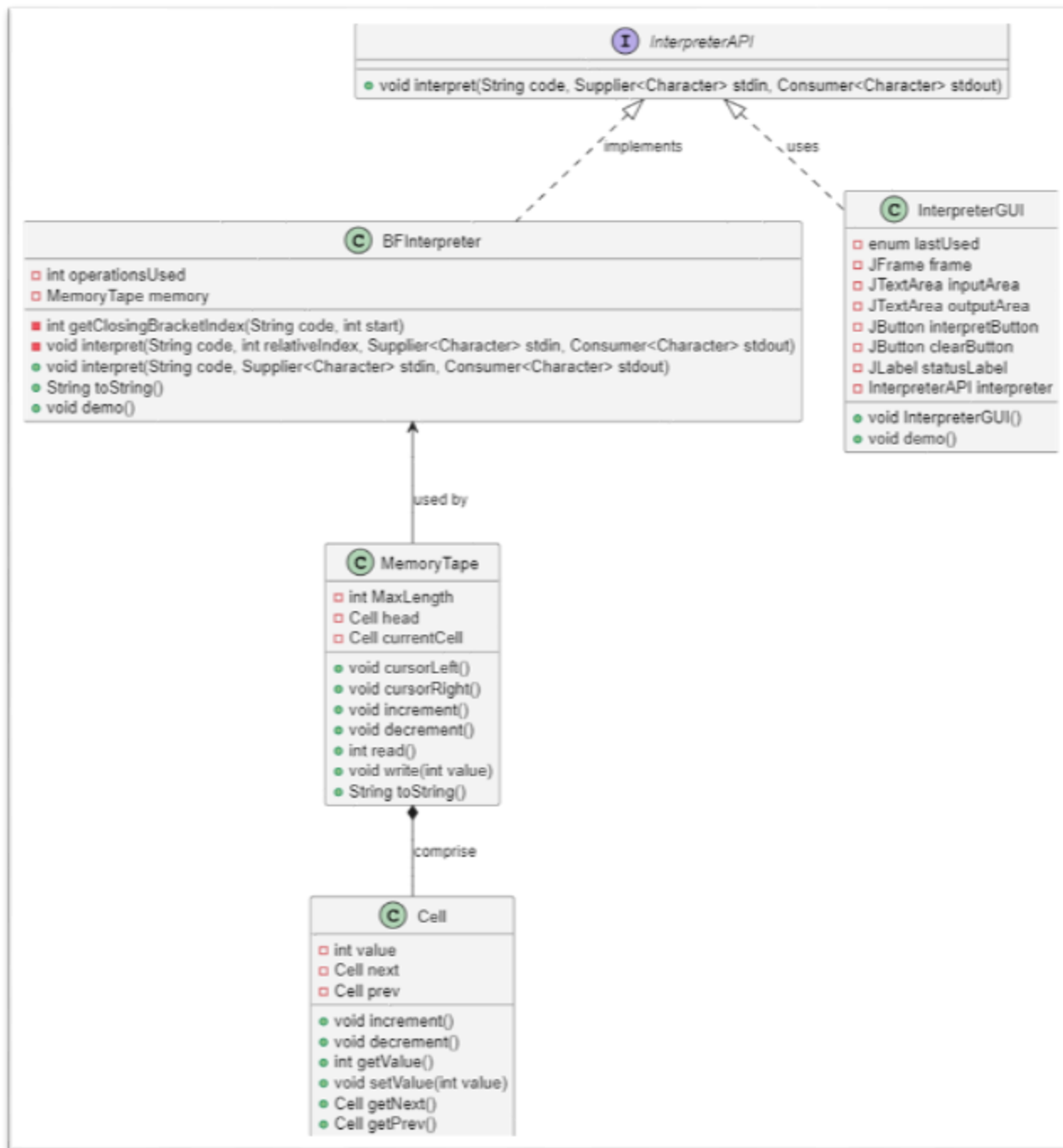# GROUP NUMBER: 6

PROJECT NAME: - OmegaCalc

PROJECT STATEMENT:

- This project presents the development of an interpreter for a popular esoteric programming language.

- The project includes 2 main components: the actual interpreter engine, and a Swing-based GUI.

OBJECT-ORIENTED CONCEPTS

- **Encapsulation** – Logic is organized into separate classes (e.g., Parser, Evaluator, Token) with specific responsibilities.

- **Abstraction** – The user interacts with a simple interface (run() method) without needing to understand internal parsing and evaluation.

- **Modularity** – Each component (parsing, tokenizing, evaluating) is separated into its own class, improving code readability and maintainability.

- **Class & Object Usage** – Real-world objects like expressions and tokens are modeled using classes and instantiated as objects.

- **Polymorphism** – If expression types are implemented using an interface or base class (like Expression), polymorphism is applied through method overriding.

TECH STACK

- **Programming Language** – Java

- **Text Parsing Libraries** – java.io, java.util, java.lang

- **IDE** – Visual Studio Code

- **Version Control** – GitHub

- Libraries and packages : package edu.neu.csye6200

- import java.util.function.Consumer;

- import java.util.function.Supplier;

- import java.awt.BorderLayout;

- import java.awt.event.ActionEvent;

- import java.util.function.Consumer;

- import java.util.function.Supplier;

- import javax.swing.JButton;

- import javax.swing.JFrame;

- import javax.swing.JLabel;

- import javax.swing.JPanel;

- import javax.swing.JScrollPane;

- import javax.swing.JTextArea;

- import javax.swing.SwingUtilities;

- import javax.swing.JOptionPane;

FUNCTIONALITIES FOR MILESTONE 2

- ▶ GUI-based code editor and output display
- ▶ Input field for user-provided data
- ▶ Execution of code with Start/Run button
- ▶ Support for BF scripts
- ▶ Error handling and invalid input checks

Future enhancements

- Add features to load/save files
- Can add additional interpreters implementing InterpreterAPI

CONTRIBUTIONS

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