

# Compiler for Java

Mentor: Amita Sahastrabudhe  
Group 10  
Harshit Maheshwari, 10290  
Jeetesh Mangwani, 10314  
Vinit Kataria, 10807  
Rajiv Krishna Omar, 10577

## Aim of the Project

This project aims to implement a compiler for a subset of Java language. The compiler outputs MIPS assembly code.

## What has been achieved

The compiler has the following features:

- Data types: int, float, char, string, bool, short
- Keywords, identifiers, constants, operators
- Statements: assignments, conditional (If-then-else), loops (for, while, do-while), comments, print statements
- Multidimensional arrays
- Functions (Pass by value) (Recursive, void, non-void)
- Object oriented features: classes & objects, constructors, multilevel inheritance, polymorphism

## What has not been achieved

- Support for double and long datatype
- Switch statement
- Constructor has to be specified for each class (no default constructor)

## Contributions & Credits

- Harshit Maheshwari (10290):
  - involved in writing grammar rules for syntactic analysis
  - refined and corrected lexical, semantic and code-generation phase
- Jeetesh Mangwani (10314)
  - involved in writing lexical, syntactic, semantic and code-generation phase
  - refined and corrected lexical, syntactic, semantic and code-generation phase
- Vinit Kataria (10807)
  - involved in writing grammar rules for syntactic analysis
  - refined and corrected lexical, semantic and code-generation phase
- Rajiv Krishna Omar (10577)
  - refined and corrected lexical, syntactic & semantic phase
  - involved in writing grammar rules for syntactic analysis