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## 1 Directory Structure

Following is the directory structure of our project.

```
milestone2
├── src
│   ├── scanner.l
│   ├── grammar.y
│   ├── Makefile
│   └── milestone4
├── tests
├── doc
│   └── report.pdf
```

## 2 Execution Step

Following are the steps for execution. Assume that the current location is the milestone4 directory.

```
cd src
make
./milestone4 --input=../tests/input.java --output=output.s
```

## 3 Functions Included

### 3.1 Basic Functionality

- Basic operators:
  - Arithmetic operators: `+`, `-`, `*`, `/`, `%`
  - Preincrement, predecrement, postincrement, and postdecrement (only type-checking done)
  - Relational operators: `==`, `!=`, `<`, `>`, `<=`, `>=`
  - Bitwise operators: `&`, `|`, `&`, `~`, `<<`, `>>`, `>>>` (only type-checking done)
  - Logical operators: `&&`, `||`, `!` (only type-checking done)
  - Assignment operators: `=`, `+=`, `-=`, `*=`, `/=`, `&=`
- Control flow via `if-then`, `for`, and `while`

### 3.2 Bonus Functionality

- Included support for nested class
- Support for nested loops
- Support for global variables
- Methods and method calls, static methods only
- Support for recursion

### 3.3 Limitations:

- local variables cant have modifiers.
- no support for lambda, annotations, class literal
- only cast to primitive is allowed
- explicit constructor invocation not supported
- no static block allowed
- class interface all are supposed to have same type

## 4 Contribution

Adi Pratap Singh = 33.33%

Naman Singla = 33.33%

Rishav Bikarwar = 33.33%