

# Java Features for the Project

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## Basic Features

Each group is expected to implement support for the following language features.

- Primitive data types (for e.g., `int`, `long`, `float`, `double`, and `boolean`)
- Multidimensional (say max 3D) arrays
- Basic operators (for e.g., `%`, `++`, `!=`, and `>>>`)
  - [https://www.tutorialspoint.com/java/java\\_basic\\_operators.htm](https://www.tutorialspoint.com/java/java_basic_operators.htm)
  - Arithmetic operators (`+`, `-`, `*`, `/`, `%`, `++`, `--`)
    - Both preincrement, predecrement, postincrement, and postdecrement
  - Relational operators (`==`, `!=`, `>`, `<`, `>=`, `<=`)
  - Bitwise operators (`&`, `|`, `^`, `~`, `<<`, `>>`, `>>>`)
  - Logical operators (`&&`, `||`, `!`)
  - Assignment operators (`=`, `+=`, `-=`, `*=`, `/=`, `&=`)
  - Miscellaneous operators (for e.g., ternary)
- Control flow (`if-else`, `for` and `while`)
  - Ignore constructs like `do-while` and `switch`
- Functions and function calls
- Recursion
- Basic library functions (for e.g., `println()`)
- Support for classes, and objects
  - `public` and `private` access modifiers, ignore `default` and `protected`

## Optional Features

- Support for Interfaces
- Static polymorphism via method overloading
- Dynamic polymorphism via method overriding
- Type casting
- Generics
- Any other features that you want to support

Bonus marks will be associated for correctly implementing optional features.