Computer Science 227
Introduction to Programming

Iowa State University

Lecture 3
Reminder: Labs start from Monday 8/29.
Today

- Eclipse
- First Java Program
- Printing to Console
- Variables and Arithmetic Expressions.
• Every Java program is a **class**
• A class will have **methods**.
• **main** is the start of the program.
Output

- `System.out.println` is a command used to display output on console.
- `System.out.println("Welcome to Programming");` outputs
  - Welcome to Programming
- `println Vs print`
Variables

Variable Declaration Statement

```java
int birthYear;
```

- Declaring a variable named `birthYear`
- Creates a memory location named `birthYear`
- Can hold integer values.
- `type` of the variable `birthYear` is `int`
Assignment

Assignment Statement

\[ \text{birthYear} = 1973; \]

- Variable \( \text{birthYear} \) has a value 1973.

Assignment Statement

\[ \text{age} = \text{currentYear} - \text{birthYear}; \]

- \( \text{currentYear} - \text{birthYear} \) is an arithmetic expression.
- Assignment statement has RHS (Right Hand Side) and LHS (Left Hand Side).
- RHS is a variable.
- Evaluate LHS, store the value in the RHS variable.
int birthYear;
int currentYear;
int age;

age = currentYear - birthYear;
System.out.println(age);

Value of the variable age is 38;
System.out.println(age) prints the value of the variable age.
Variable update

age = age + 1;

Evaluate RHS to 39.
Now, value of variable age becomes 39.
Arithmetic operators: +, −, *, /.
types

- Data has type.
- Variables represent data.
- Variables have type.
  - int to represent integers
  - double for real numbers
  - char for characters.