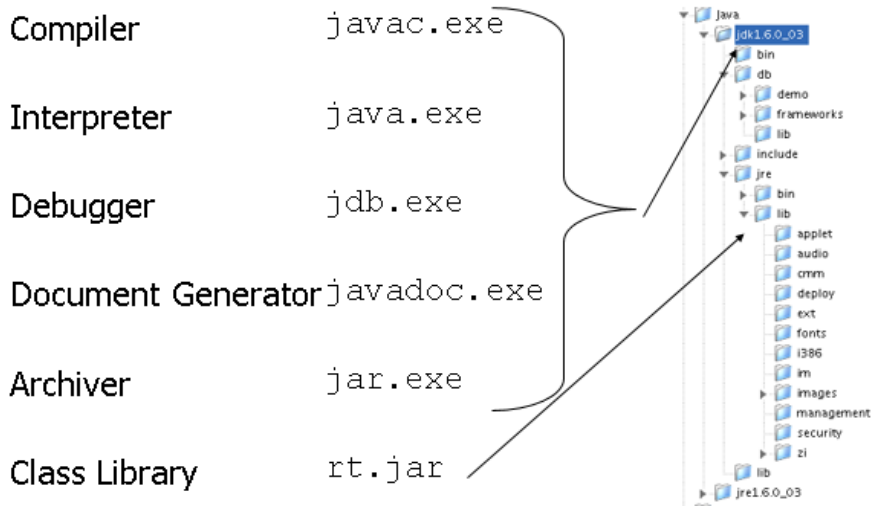
Object-Oriented Language and Theory

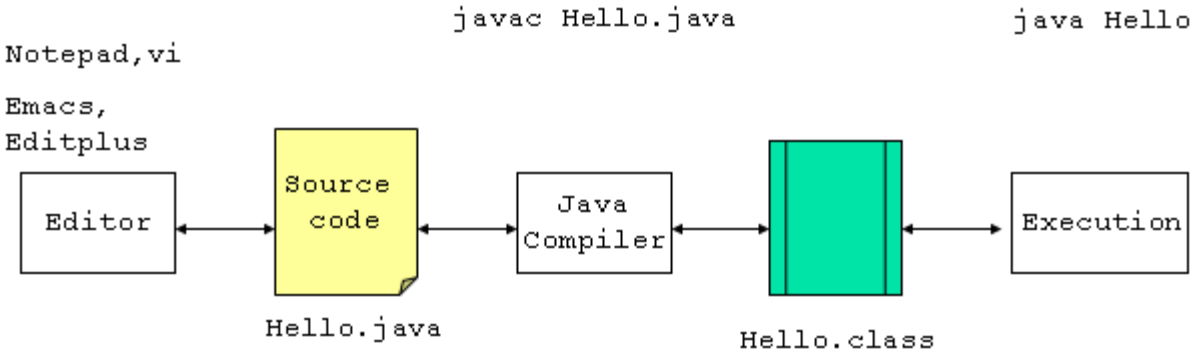
NGUYEN Thi Thu Trang, trangntt@soict.hust.edu.vn

Lab 1: Environment Preparation and First Applications

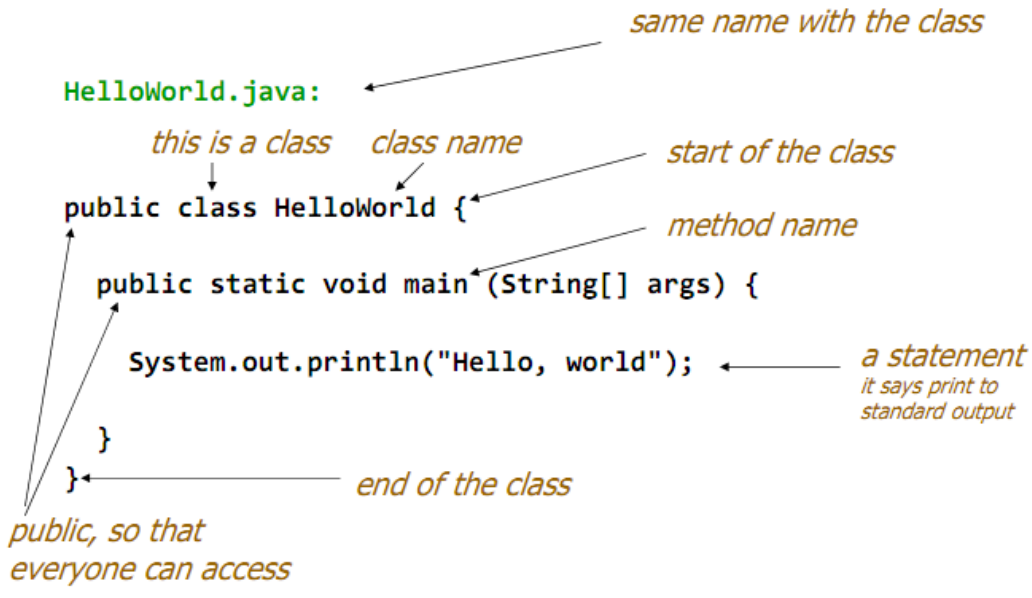
* Development Environment



* Compile a Java application by command line



* The first Java application



Compile HelloWorld.java

javac HelloWorld.java

Run

java HelloWorld

Result

```
%> javac HelloWorld.java
%> java HelloWorld
Hello, world
```

Video demo:

https://www.youtube.com/watch?v=G1ubVOl9IBw

https://www.youtube.com/watch?v=2Xa3Y4xz8_s

1. Write, compile the first Java application:

```
1  //Example 1: HelloWorld.java
2  //Text-printing program
3  public class HelloWorld {
4
5     public static void main(String args[]){
6          System.out.println("Xin chao \n cac ban!");
7          System.out.println("Hello \t world!");
8
9     } // end of method main
10 }
```

2. Write, compile the first dialog Java application

```
1  // Example 2: FirstDialog.java
2  import javax.swing.JOptionPane;
3  public class FirstDialog{
4      public static void main(String[] args){
5          JOptionPane.showMessageDialog(null,"Hello world! How are you?");
6          System.exit(0);
7      }
8  }
```

3. Write, compile the first input dialog Java

```java
// Example 3: HelloNameDialog.java
import javax.swing.JOptionPane;
public class HelloNameDialog{
  public static void main(String[] args){
    String result;
    result = JOptionPane.showInputDialog("Please enter your name:");
    JOptionPane.showMessageDialog(null, "Hi "+ result + "!");
    System.exit(0);
  }
}
```

4. Write, compile and run the following example:

```java
// Example 5: ShowTwoNumbers.java
import javax.swing.JOptionPane;
public class ShowTwoNumbers {
  public static void main(String[] args){
    String strNum1, strNum2;
    String strNotification = "You've just entered: ";

    strNum1 = JOptionPane.showInputDialog(null,
                "Please input the first number: ","Input the first number",
                JOptionPane.INFORMATION_MESSAGE);
    strNotification += strNum1 + " and ";

    strNum2 = JOptionPane.showInputDialog(null,
                "Please input the second number: ","Input the second number",
                JOptionPane.INFORMATION_MESSAGE);
    strNotification += strNum2;

    JOptionPane.showMessageDialog(null,strNotification,
                "Show two numbers", JOptionPane.INFORMATION_MESSAGE);
    System.exit(0);
  }
}
```

5. Write a program to calculate sum, difference, product, and quotient of 2 double numbers which are entered by users.

Notes:

- To convert from String to double, you can use

  ```
  double num1 = Double.parseDouble(strNum1)
  ```

- Check the divisor of the division.

6. Write a program to solve:

- The first degree equation (linear equation) with one variable
- The first degree equation (linear equation) with two variables
- The second degree equation with one variable