1. Write a program TenHelloWorlds.java that prints "Hello, World" ten times.

```
Compile  |  Execute    TenHelloWorld.java ×
 1 ▾ public class TenHelloWorld {
 2 ▾     public static void main(String[] args) {
 3           System.out.println("Hello, World");
 4           System.out.println("Hello, World");
 5           System.out.println("Hello, World");
 6           System.out.println("Hello, World");
 7           System.out.println("Hello, World");
 8           System.out.println("Hello, World");
 9           System.out.println("Hello, World");
10           System.out.println("Hello, World");
11           System.out.println("Hello, World");
12           System.out.println("Hello, World");
13       }
14 }
```

2. Describe what happens if, in HelloWorld.java, you omit

public

```
sh-4.3# javac HelloWorld.java && java HelloWorld
Error: Main method not found in class HelloWorld, please define the main method as:
   public static void main(String[] args)
sh-4.3#
```

static

```
sh-4.3# javac HelloWorld.java && java HelloWorld
Error: Main method is not static in class HelloWorld, please define the main method as:
   public static void main(String[] args)
sh-4.3#
```

void

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:3: error: invalid method declaration; return type required
     public static  main(String []args){
                    ^
1 error
sh-4.3#
```

args

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:3: error: <identifier> expected
     public static void main(String []){
                                       ^
1 error
sh-4.3#
```

3. Describe what happens if, in HelloWorld.java, you misspell (by, say, omitting the second letter)

public

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:3: error: <identifier> expected
     pblic static void main(String []args){
          ^
1 error
sh-4.3#
```

static

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:3: error: <identifier> expected
     public sttic void main(String []args){
           ^
HelloWorld.java:3: error: invalid method declaration; return type required
     public sttic void main(String []args){
                      ^
2 errors
sh-4.3#
```

void

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:3: error: cannot find symbol
     public static vid main(String []args){
                  ^
  symbol:   class vid
  location: class HelloWorld
1 error
sh-4.3#
```

args

```
sh-4.3# javac HelloWorld.java && java HelloWorld
Hello World
sh-4.3#
```

4. Describe what happens if you try to execute Hi.java with:

java Hi

```
sh-4.3# javac Hi.java && java Hi
Hi, Exception in thread "main" java.lang.ArrayIndexOutOfBoundsException: 0
        at Hi.main(Hi.java:20)
sh-4.3#
```

java Hi @!&^%

```
sh-4.3# javac Hi.java && java Hi @!&^%
sh: !: event not found
sh-4.3#
```

java Hi 1234

```
sh-4.3# javac Hi.java && java Hi 1234
Hi, 1234. How are you?
sh-4.3#
```

java Hi.class Bob

```
sh-4.3# javac Hi.java && java Hi.class Bob
Error: Could not find or load main class Hi.class
sh-4.3#
```
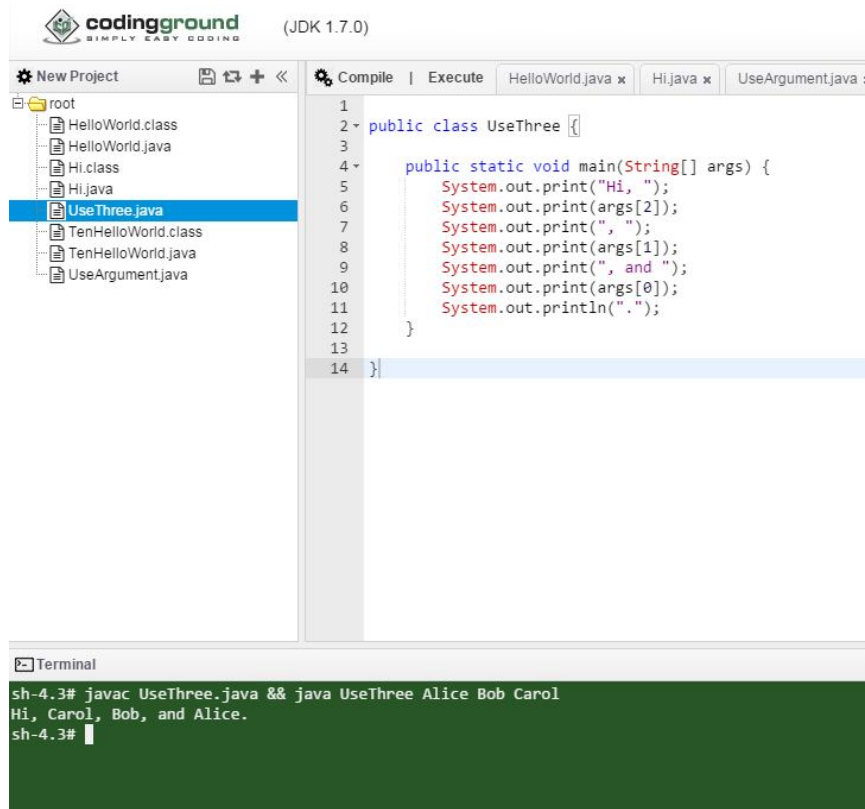
java Hi.java Bob

```
sh-4.3# javac Hi.java && java Hi.java Bob
Error: Could not find or load main class Hi.java
sh-4.3#
```

java Hi Alice Bob

```
sh-4.3# javac Hi.java && java Hi Alice Bob
Hi, Alice. How are you?
sh-4.3#
```

5. Modify UseArgument.java to make a program UseThree.java that takes three names and prints out a proper sentence with the names in the reverse of the order given, so that for example, "java UseThree Alice Bob Carol" gives "Hi Carol, Bob, and Alice.".


```
sh-4.3# javac UseThree.java && java UseThree Alice Bob Carol
Hi, Carol, Bob, and Alice.
sh-4.3#
```

Web Exercises

1. Write a program Initials.java that prints your initials using nine rows of asterisks like the one below.

```
**     ***   **********    **        *       **

**    ***   **   **   **      ***     **

**   ***   **   **   **    ** **    **

** ***    **    **   **    ** **   **

*****     **    **   **   **   **   **   **

** ***    **    **   ** **    ** **

**    ***   **   **    ** **     ** **

**    ***   **   **    ***     ***

**    ***   **********     *       *
```

```java
public class Initials {

    public static void main(String[] args) {
        System.out.println("**        ***    **********     **          *          **");
        System.out.println("**          ***     **        **       **          ***          ** ");
        System.out.println("**     ***     **        **      **       ** **       ** ");
        System.out.println("** ***     **         **      **       **     **       ** ");
        System.out.println("*****         **         **      **      **      **      **      ** ");
        System.out.println("**     ***     **         **       ** **       ** **       ");
        System.out.println("**       ***     **        **        ** **        ** **       ");
        System.out.println("**          ***     **        **         ***           ***          ");
        System.out.println("**          ***    **********          *           * ");
    }

}
```

2. Describe what happens if, in HelloWorld.java, you omit

main

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:3: error: <identifier> expected
      public static void (String []args){
                         ^
1 error
sh-4.3#
```

String

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:3: error: illegal start of type
    public static void main( []args){
                             ^
HelloWorld.java:3: error: ')' expected
    public static void main( []args){
                              ^
HelloWorld.java:3: error: ';' expected
    public static void main( []args){
                               ^
HelloWorld.java:3: error: illegal start of type
    public static void main( []args){
                                 ^
HelloWorld.java:3: error: <identifier> expected
    public static void main( []args){
                                  ^
HelloWorld.java:3: error: ';' expected
    public static void main( []args){
                                   ^
HelloWorld.java:4: error: illegal start of type
        System.out.println("Hello World");
              ^
HelloWorld.java:4: error: ';' expected
        System.out.println("Hello World");
                  ^
HelloWorld.java:4: error: invalid method declaration; return type required
        System.out.println("Hello World");
                   ^
HelloWorld.java:4: error: illegal start of type
        System.out.println("Hello World");
                       ^
HelloWorld.java:6: error: class, interface, or enum expected
}
^
11 errors
sh-4.3#
```

HelloWorld

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:1: error: <identifier> expected
public class {
            ^
1 error
sh-4.3#
```

System.out

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:4: error: illegal start of expression
        .println("Hello World");
        ^
1 error
sh-4.3#
```

println

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:4: error: <identifier> expected
        System.out.("Hello World");
                   ^
1 error
sh-4.3#
```

3. Describe what happens if, in HelloWorld.java, you omit

the ;

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:4: error: ';' expected
        System.out.println("Hello World")
                                         ^
1 error
sh-4.3#
```

the first "

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:4: error: ')' expected
        System.out.println(Hello World");
                                 ^
HelloWorld.java:4: error: unclosed string literal
        System.out.println(Hello World");
                                        ^
HelloWorld.java:4: error: ';' expected
        System.out.println(Hello World");
                                         ^
HelloWorld.java:6: error: reached end of file while parsing
}
 ^
4 errors
sh-4.3#
```

the second "

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:4: error: unclosed string literal
        System.out.println("Hello World);
                           ^
HelloWorld.java:4: error: ';' expected
        System.out.println("Hello World);
                                        ^
HelloWorld.java:6: error: reached end of file while parsing
}
 ^
3 errors
sh-4.3#
```

the first {

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:1: error: '{' expected
public class HelloWorld
                         ^
1 error
sh-4.3#
```

the second {

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:3: error: ';' expected
      public static void main(String []args)
                                            ^
HelloWorld.java:6: error: class, interface, or enum expected
}
^
2 errors
sh-4.3#
```

the first }

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:6: error: reached end of file while parsing
}
 ^
1 error
sh-4.3#
```

the second }

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:5: error: reached end of file while parsing
      }
       ^
1 error
sh-4.3#
```

4. Describe what happens if, in HelloWorld.java, you misspell (by, say, omitting the second letter)

main

```
sh-4.3# javac HelloWorld.java && java HelloWorld
Error: Main method not found in class HelloWorld, please define the main method as:
   public static void main(String[] args)
sh-4.3#
```

String

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:3: error: cannot find symbol
      public static void main(Sring []args){
                              ^
  symbol:   class Sring
  location: class HelloWorld
1 error
sh-4.3#
```

HelloWorld

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:1: error: class HlloWorld is public, should be declared in a file named HlloWorld.java
public class HlloWorld{
       ^
1 error
sh-4.3#
```

System.out

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:4: error: package Sstem does not exist
        Sstem.out.println("Hello World");
             ^
1 error
sh-4.3#
```

println

```
sh-4.3# javac HelloWorld.java && java HelloWorld
HelloWorld.java:4: error: cannot find symbol
        System.out.pintln("Hello World");
                  ^
  symbol:   method pintln(String)
  location: variable out of type PrintStream
1 error
sh-4.3#
```

5. I typed in the following program. It compiles fine, but when I execute it, I get the error java.lang.NoSuchMethodError: main. What am I doing wrong?

public class Hello {

  public static void main() {

    System.out.println("Doesn't execute");

  }

}

String[] args it is required between ().