

Computer Science: Create Your Own RPG

Day #1

OPPTAG Explorations 2014

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July 7th, 2014

What is Java?

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Let's Begin!

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Little Harder

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Bonus and a lil' Homework

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Brief Overview

- Java is a *programming language*.

What is Java?

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Let's Begin!

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Little Harder

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Bonus and a lil' Homework

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Brief Overview

- Java is a *programming language*.
- One of the most popular programming languages today
(July 7th, 2014)

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- Has a “write once run anywhere” philosophy, and uses a virtual machine.

Brief Overview

- Java is a *programming language*.
- One of the most popular programming languages today (July 7th, 2014)
- Developers use Java to make programs for operating systems such as Windows, iOS, Linux, and Android.
- Has a “write once run anywhere” philosophy, and uses a virtual machine.
- More importantly it has been used for a few notable games...

What is Java?

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Let's Begin!

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Little Harder

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Game # 1



What is Java?

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Let's Begin!

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Game # 2



What is Java?

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Let's Begin!

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Little Harder

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Game # 3



What is Java?

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Let's Begin!

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Little Harder

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Bonus and a lil' Homework

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Why Java?

- There are several careers for Java programmers due to the language's popularity.

What is Java?

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Let's Begin!

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Why Java?

- There are several careers for Java programmers due to the language's popularity.
- It is a necessary language for Android development.

What is Java?

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Let's Begin!

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Why Java?

- There are several careers for Java programmers due to the language's popularity.
- It is a necessary language for Android development.
- It is object oriented.

What is Java?

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Let's Begin!

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Why Java?

- There are several careers for Java programmers due to the language's popularity.
- It is a necessary language for Android development.
- It is object oriented.
- It has extensive libraries and good community support.

What is Java?

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Let's Begin!

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Why Java?

- There are several careers for Java programmers due to the language's popularity.
- It is a necessary language for Android development.
- It is object oriented.
- It has extensive libraries and good community support.

However, is Java (or any other language) the best? Certain languages perform better at certain tasks. More importantly, it is easy to learn other programming languages once you know one.

What is Java?

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Let's Begin!

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Deep Questions

- What is a program?

What is Java?

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Let's Begin!

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Deep Questions

- What is a program?

A program is a set of instructions that when read by a computer perform a certain task. By a set of instructions, we mean the binary sequences that a CPU can read.

What is Java?

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Let's Begin!

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- How are programs made?

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- How are programs made?

They are compiled: Idea \Rightarrow source code \Rightarrow (Java bytecode \Rightarrow) program.

Deep Questions

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- How do games work?

What is Java?
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- How are programs made?

They are compiled: Idea ⇒ source code ⇒ (Java bytecode ⇒) program.

- How do games work?

Games are some of the most interesting programs out there. Games have to perform several intense calculations several times per second, requiring very cunning algorithms.

What is Java?

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Let's Begin!

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What will we do in this class?

- ALOT!!!!

What is Java?

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Let's Begin!

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What will we do in this class?

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- First, we will learn the basics of programming:
 - How to save, compile, and run your code.

What is Java?

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Let's Begin!

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Bonus and a lil' Homework

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 - How to save, compile, and run your code.
 - Syntax: ; , =, "", int...

What is Java?

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Let's Begin!

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 - How to save, compile, and run your code.
 - Syntax: ;, =, "", int...
 - Lots of loops, and some data structures

What is Java?
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Let's Begin!
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- ALOT!!!!
- First, we will learn the basics of programming:
 - How to save, compile, and run your code.
 - Syntax: ;, =, "", int...
 - Lots of loops, and some data structures
 - Libraries: util.Scanner, swing.JFrame, util.Date, io.File...

What is Java?

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Let's Begin!

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Bonus and a lil' Homework

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What else will we do in this class?

- Algorithms:
 - Methods

What is Java?

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Let's Begin!

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Bonus and a lil' Homework

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What else will we do in this class?

- Algorithms:
 - Methods
 - Recursion

What is Java?

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Let's Begin!

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Bonus and a lil' Homework

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What else will we do in this class?

- Algorithms:
 - Methods
 - Recursion
- GUIs and graphics!

What is Java?

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Let's Begin!

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Little Harder

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Bonus and a lil' Homework

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What else will we do in this class?

- Algorithms:
 - Methods
 - Recursion
- GUIs and graphics!
- Use Eclipse IDE

What is Java?

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Let's Begin!

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What else will we do in this class?

- Algorithms:
 - Methods
 - Recursion
- GUIs and graphics!
- Use Eclipse IDE
- Make an RPG (or other game perhaps?)

What is Java?

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Let's Begin!

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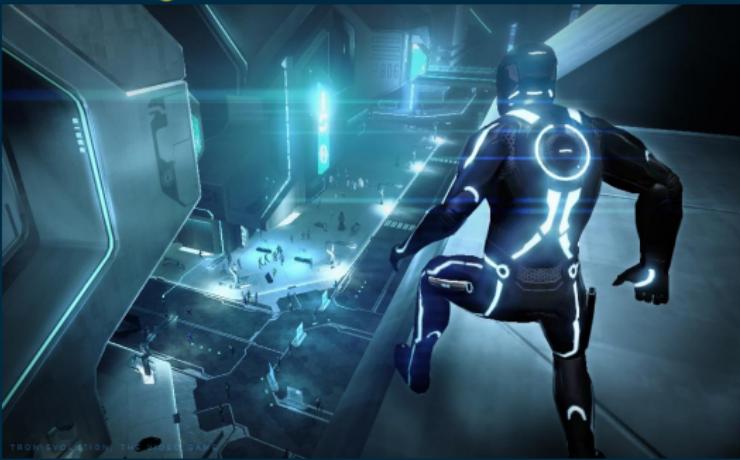
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What will our games look like?

Our games will not look like this:



What is Java?

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Let's Begin!

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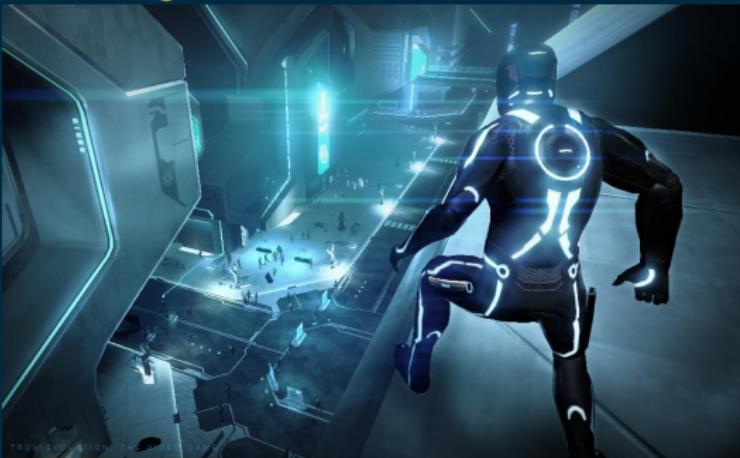
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What will our games look like?

Our games will not look like this:



but that's ok.

What is Java?

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Let's Begin!

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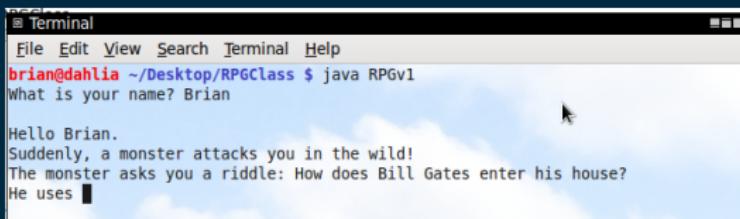
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Progression



A screenshot of a terminal window titled "Terminal". The window has a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help". The title bar says "Terminal". The command line shows "briang@dahlia ~/Desktop/RPGClass \$ java RPGv1". The user types "What is your name? Brian" and the program responds with "Hello Brian.". Then it asks, "Suddenly, a monster attacks you in the wild!" followed by a riddle: "The monster asks you a riddle: How does Bill Gates enter his house? He uses [REDACTED]" where the last word is obscured by a black redaction box.

What is Java?

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Let's Begin!

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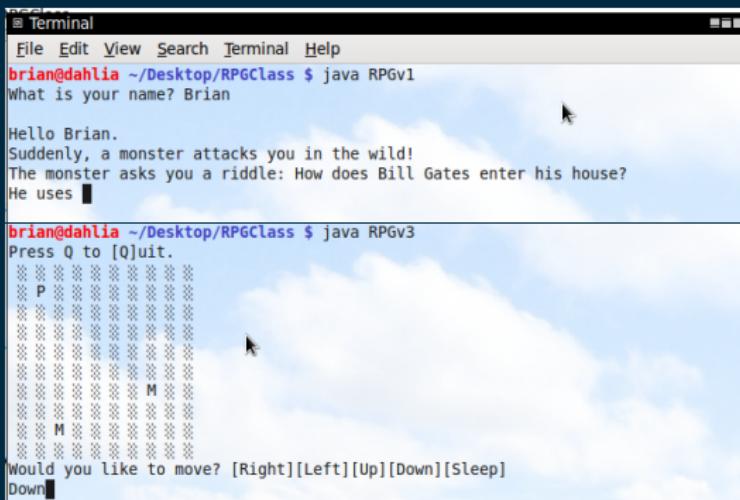
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Progression



The screenshot shows a terminal window titled "Terminal". It contains two separate sessions of a Java-based RPG game.

Session 1: The user is prompted for their name ("What is your name? Brian"). The game responds with "Hello Brian.", "Suddenly, a monster attacks you in the wild!", and asks a riddle: "The monster asks you a riddle: How does Bill Gates enter his house? He uses []".

Session 2: The user is prompted to press 'Q' to quit. The screen displays a grid-based map with several 'P' (Player) and 'M' (Monster) symbols. The user is then asked if they want to move, with options: "Would you like to move? [Right][Left][Up][Down][Sleep]".

What is Java?

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Let's Begin!

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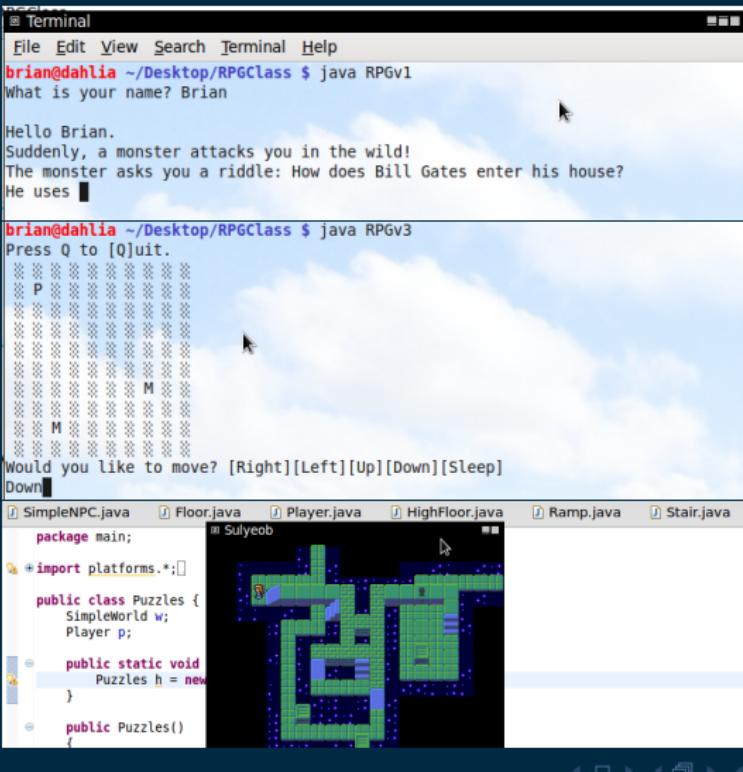
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Progression



What is Java?

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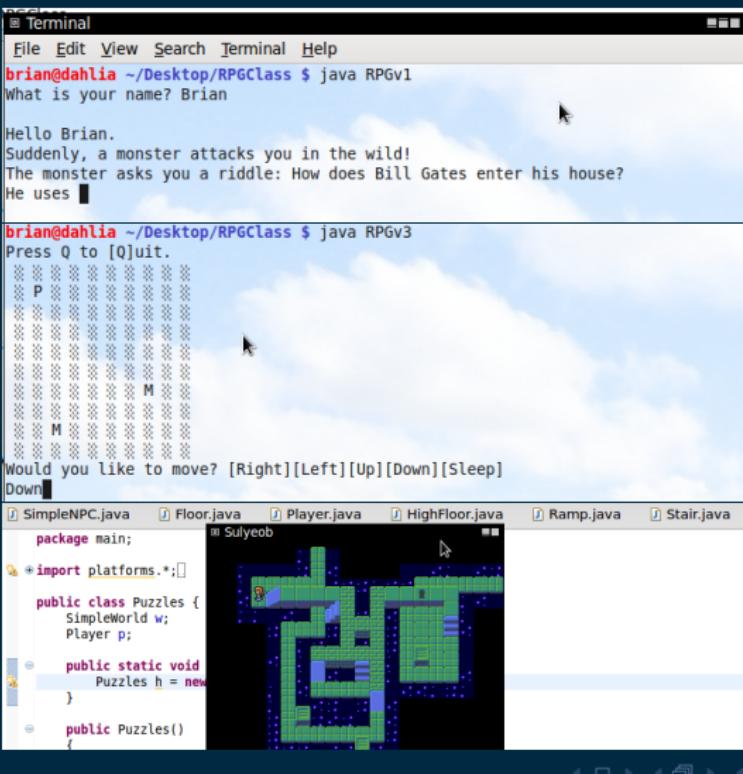
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Progression



Historical Similarity

In a way, we will be tracing the history of game development:

```
>w
You are in an awkward slop;
>w
You are in a splendid cham-
of orange stone. An awkwar-
west sides of the chamber.
>w
At your feet is a small pit
ends here except for a smal-
Rough stone steps lead down
>d
You are at one end of a vas-
west. There are openings 1
leads downward. The hall i
fro almost as if alive. A
passage at the top of a dor
Rough stone steps lead up 1
>d
You are in the hall of the
directions.
A huge green fierce snake t
>
```



What is Java?

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Let's Begin!

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What's the difference between 2d and 3d?

Mostly how the graphics are rendered.



What is Java?

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Let's Begin!

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Your first program

- Login:
 - Username: osummer
 - Password: y1ycwd8y

What is Java?

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Let's Begin!

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Your first program

- Login:
 - Username: osummer
 - Password: y1ycwd8y
- Open Notepad (All Programs > Accessories > Notepad)

What is Java?

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Let's Begin!

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Your first program

- Login:
 - Username: osummer
 - Password: y1ycwd8y
- Open Notepad (All Programs > Accessories > Notepad)
- Save your blank file as Hello.java on your flash drive.

What is Java?

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Let's Begin!

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Your first program

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What is Java?
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Let's Begin!
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The Code

- Type in the following *exactly* as it is shown:

```
public class Hello{  
    public static void main(String[] args){  
        System.out.println("Hello World!");  
    }  
}
```

- Save.
- Open the Command Prompt (All Programs > Accessories > Command Prompt).

What is Java?

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Let's Begin!

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The Command Prompt

- Find your flash drive (Computer > F:\, G:\, H:\, etc.)

What is Java?
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Let's Begin!
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The Command Prompt

- Find your flash drive (Computer > F:\, G:\, H:\, etc.)
- Once you find the name of your drive type it into the Command Prompt and press Enter:

C:\Users\Admin> G:

G:\>

- To see the files in a directory type dir.
- To move between directories type cd <directory_name>.

What is Java?
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The Command Prompt

- To compile your code use javac
`<name_of_class>.java.`

```
G:\RPGClass\> javac Hello.java
```

```
G:\RPGClass\>
```

What is Java?
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Let's Begin!
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The Command Prompt

- To compile your code use `javac <name_of_class>.java.`

```
G:\RPGClass\> javac Hello.java
```

```
G:\RPGClass\>
```

- Then run your code using `java <name_of_class>.`

```
G:\RPGClass\> java Hello  
Hello World!
```

```
G:\RPGClass\>
```

- Congratulations! You have completed your first program.

What is Java?
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Let's Begin!
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How does the code work?

```
public class Hello {  
    public static void main(String[] args) {  
        System.out.println("Hello World!");  
    }  
}
```

Modifier: *public* means that this class can be seen by all other classes.

What is Java?
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```
public class Hello {  
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```

Class: all java programs are written within classes. This keyword tells java that what follows is the name of a class

What is Java?
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How does the code work?

```
public class Hello{  
    public static void main(String[] args) {  
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}
```

Hello: the name of the class. Since this class is public, the class name, and the file name must be the same. (Hello.java)

What is Java?
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How does the code work?

```
public class Hello {  
    public static void main(String[] args) {  
        System.out.println("Hello World!") ;  
    }  
}
```

public static void main(String[] args): This is a *method* with an *argument*. When ever the program is run, this method is called.

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How does the code work?

```
public class Hello {  
    public static void main(String[] args) {  
        System.out.println("Hello World!");  
    }  
}
```

`System.out.println()`: this method prints a *String* to the terminal.

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How does the code work?

```
public class Hello {  
    public static void main(String[] args) {  
        System.out.println("Hello World!");  
    }  
}
```

"Hello World!": this is a string.

What is Java?
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What are we doing in the Command Prompt?

G:\RPGClass\> javac Hello.java

G:\RPGClass\>

This compiles the Java code (written using human readable characters) into Java bytecode.

What is Java?
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```
G:\RPGClass\> javac Hello.java
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G:\RPGClass\>
```

This compiles the Java code (written using human readable characters) into Java bytecode.

```
G:\RPGClass\> java Hello  
Hello World!
```

```
G:\RPGClass\>
```

This runs the Java bytecode, by using a JIT compiler. The JIT compiler translates the Java bytecode into the bytecode used by your computer.

What is Java?

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Let's Begin!

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What is a String?

- Before we upgrade our program, let's learn about variables.
- A string is a sequence of characters surrounded by quotes ("").

What is Java?
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Let's Begin!
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Bonus and a lil' Homework
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What is a String?

- Before we upgrade our program, let's learn about variables.
- A string is a sequence of characters surrounded by quotes ("").
- Which of the following are Strings?
 - "Hello World!"

What is Java?
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What is a String?

- Before we upgrade our program, let's learn about variables.
- A string is a sequence of characters surrounded by quotes ("").
- Which of the following are Strings?
 - "Hello World!" Yes
 - "12,350"

What is Java?
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What is a String?

- Before we upgrade our program, let's learn about variables.
- A string is a sequence of characters surrounded by quotes ("").
- Which of the following are Strings?
 - "Hello World!" Yes
 - "12,350" Yes
 - How are you doing today?

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What is a String?

- Before we upgrade our program, let's learn about variables.
- A string is a sequence of characters surrounded by quotes ("").
- Which of the following are Strings?
 - "Hello World!" *Yes*
 - "12,350" *Yes*
 - How are you doing today? *No*
 - 'Hi, my name is Brian!'

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What is a String?

- Before we upgrade our program, let's learn about variables.
- A string is a sequence of characters surrounded by quotes ("").
- Which of the following are Strings?
 - "Hello World!" **Yes**
 - "12,350" **Yes**
 - How are you doing today? **No**
 - 'Hi, my name is Brian!' **No**
 - "OMG, I learned sooo much in the coding class today." "

What is Java?
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What is a String?

- Before we upgrade our program, let's learn about variables.
- A string is a sequence of characters surrounded by quotes ("").
- Which of the following are Strings?
 - "Hello World!" **Yes**
 - "12,350" **Yes**
 - How are you doing today? **No**
 - 'Hi, my name is Brian!' **No**
 - "OMG, I learned sooo much in the coding class today." "**No**
 - "Then the instructor asked, \"Are these strings?\"."**No**

What is Java?
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What is a String?

- Before we upgrade our program, let's learn about variables.
- A string is a sequence of characters surrounded by quotes ("").
- Which of the following are Strings?
 - "Hello World!" **Yes**
 - "12,350" **Yes**
 - How are you doing today? **No**
 - 'Hi, my name is Brian!' **No**
 - "OMG, I learned sooo much in the coding class today." "**No**
 - "Then the instructor asked, \"Are these strings?\"." **Yes**

What is Java?

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What is a variable?

- Variables associate a value with a type and a name.

What is Java?

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What is a variable?

- Variables associate a value with a type and a name.
- The type of a variable tells the compiler what kind of variable we have.

What is Java?

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What is a variable?

- Variables associate a value with a type and a name.
- The type of a variable tells the compiler what kind of variable we have.
- The name of a variable is a *unique* identifier.

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What is a variable?

- Variables associate a value with a type and a name.
- The type of a variable tells the compiler what kind of variable we have.
- The name of a variable is a *unique* identifier.
- We can declare a variable by typing a type and a name:

```
String message;
```

- Notice the ";" at the end. A ; signifies the end of a *statement*.

- We can also assign a value to a variable:

```
message = "Hello World!";
```

What is Java?

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Pop Quiz!

Does Hello.java contain any statements?

What is Java?

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Continuing on...

- We can also declare and assign a variable in the same statement:

```
String message = "Hello World!";
```

What is Java?
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Continuing on...

- We can also declare and assign a variable in the same statement:

```
String message = "Hello World!";
```

- Edit Hello.java to print a message from a stored variable.

```
String <name> = "<your text here>";  
System.out.println(<name>);
```

- Try to declare another variable that has the same name as your variable. What happens when you try to compile?
- Print your string once, then reassign a different value to it (Create a different message). Print again. What happens?

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Getting arguments from the Command Prompt.

- Remember `String[] args`? We can pass a value into the `array args` when running our code.
- Try the following code:

```
public class HelloExtended{  
    public static void main(String[] args){  
        System.out.println("Hello "+args[0]+"!");  
    }  
}
```

What is Java?
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Running with Arguments.

- When running the code try entering in different words:

```
G:\RPGClass\> java Hello Brian  
Hello Brian!
```

```
G:\RPGClass\>
```

- Try to enter in more than one word. What happens?

What is Java?

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Other kinds of variables

- int: positive or negative whole numbers. Ex:
 - 1
 - 25632
 - -50
 - 0

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Other kinds of variables

- int: positive or negative whole numbers. Ex:
 - 1
 - 25632
 - -50
 - 0
- double: numbers that contain a decimal:
 - 1.0
 - 5.5
 - -4672.3356
 - -0.00000001

What is Java?

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Other kinds of variables

- char: a single char, surrounded by '' . Ex:
 - 'a'
 - 'b'
 - '4'
 - '\$'

What is Java?
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Other kinds of variables

- char: a single char, surrounded by '' . Ex:
 - 'a'
 - 'b'
 - '4'
 - '\$'
- boolean: contains either *true* or *false*
 - true
 - false

What is Java?

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Some Operators

```
int x = 3 + 2;
```

What is Java?

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Some Operators

```
int x = 3 + 2;  
x = x - 5;
```

What is Java?

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Some Operators

```
int x = 3 + 2;  
x = x - 5;  
x += 4;
```

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Some Operators

```
int x = 3 + 2;  
x = x - 5;  
x += 4;  
x = x * 3;
```

What is Java?

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Some Operators

```
int x = 3 + 2;  
x = x - 5;  
x += 4;  
x = x * 3;  
int y = x / 5;
```

What is Java?
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Some Operators

```
int x = 3 + 2;  
x = x - 5;  
x += 4;  
x = x * 3;  
int y = x / 5;  
x = x % 5;
```

What is Java?
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Some Operators

```
int x = 3 + 2;  
x = x - 5;  
x += 4;  
x = x * 3;  
int y = x / 5;  
x = x % 5;  
x++;
```

What is Java?

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Bonus and a lil' Homework

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Some Operators

```
int x = 3 + 2;  
x = x - 5;  
x += 4;  
x = x * 3;  
int y = x / 5;  
x = x % 5;  
x++;  
int z = -y;
```

What is Java?
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Some Operators

```
int x = 3 + 2;  
x = x - 5;  
x += 4;  
x = x * 3;  
int y = x / 5;  
x = x % 5;  
x++;  
int z = -y;  
double w = 12.0;  
w /= 5;
```

What is Java?
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Some Operators

```
int x = 3 + 2;  
x = x - 5;  
x += 4;  
x = x * 3;  
int y = x / 5;  
x = x % 5;  
x++;  
int z = -y;  
double w = 12.0;  
w /= 5;  
String s = "I am " + 14 + 'y' + 'e' + "ars";
```

What is Java?

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Let's Begin!

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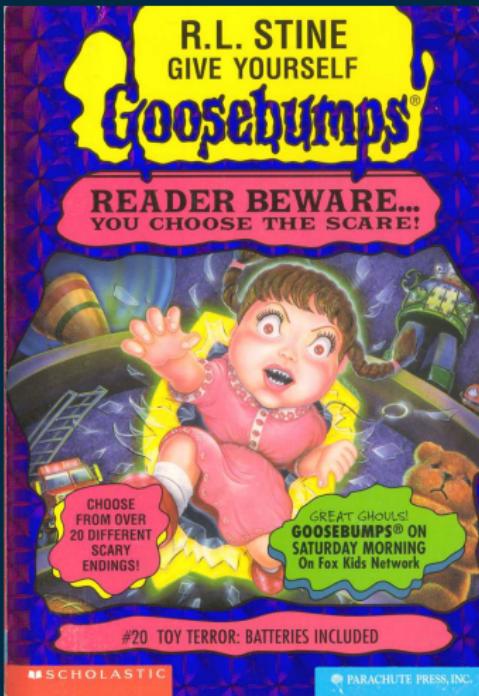
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Pre-Lunch Exercise



Changing the Flow of Execution

- Lets say we want to create a program that accepts a password. It only lets a user in *if* their password is correct. For this we need an *if*-statement.
- if* statements use boolean values to decide whether or not to execute a *block* of code.
- Example:

```
boolean allowed = false;  
if ( allowed ) {  
    System.out.println("Hello World!"); }
```

- A *block* is a { followed by any number of *statements* followed by a }.
- If a block does not follow an if statement then it decides whether or not to execute the next line of code.

What is Java?

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Boolean Operators

```
boolean b = true && true;
```

What is Java?

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Boolean Operators

```
boolean b = true && true;  
b = true && false;
```

What is Java?

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Boolean Operators

```
boolean b = true && true;  
b = true && false;  
b = false && false;
```

What is Java?

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Let's Begin!

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Boolean Operators

```
boolean b = true && true;  
b = true && false;  
b = false && false;  
b = true || true;
```

What is Java?

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Let's Begin!

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Boolean Operators

```
boolean b = true && true;  
b = true && false;  
b = false && false;  
b = true || true;  
b = true || false;
```

What is Java?

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Boolean Operators

```
boolean b = true && true;  
b = true && false;  
b = false && false;  
b = true || true;  
b = true || false;  
b = false || false;
```

What is Java?
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Boolean Operators

```
boolean b = true && true;  
b = true && false;  
b = false && false;  
b = true || true;  
b = true || false;  
b = false || false;  
b = !true;
```

What is Java?
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Boolean Operators

```
boolean b = true && true;  
b = true && false;  
b = false && false;  
b = true || true;  
b = true || false;  
b = false || false;  
b = !true;  
String s = "password";  
if(s.equals("password")){  
    b = (!false) && true;  
}
```

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Boolean Operators

```
boolean b = true && true;  
b = true && false;  
b = false && false;  
b = true || true;  
b = true || false;  
b = false || false;  
b = !true;  
  
String s = "password";  
if(s.equals("password")){  
    b = (!false) && true;  
} else {  
    b = false;  
}
```

What is Java?
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A Few Things about Printing

- We have been using `System.out.println(<text>)`.
This prints the text to the console and then puts in a new line.
- However we could use `System.out.print(<text>)`.
This prints the text to the console, without putting in a new line.

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A Few Things about Printing

- We have been using `System.out.println(<text>)`.
This prints the text to the console and then puts in a new line.
- However we could use `System.out.print(<text>)`.
This prints the text to the console, without putting in a new line.
- In addition to this there are a number of special characters you can use in a *String*:
 - `\t` : tab.
 - `\n` : newline.
 - `\\"` : backslash.
 - `\b` : backspace.
 - `\\"` : double quote.
 - `\'` : quote.

What is Java?
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Harder Hello World

Extend Hello World so that it only prints if it receives the correct password from the user. The password should be passed as an *argument* on the command line.

What is Java?
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Example Code

```
public class HelloFinal {  
    public static void main(String[] args) {  
        if(args.length == 1) {  
            System.out.print("Hello ");  
            System.out.print(args[0]);  
            System.out.println("!");  
        }  
        else {  
            System.out.println("Hello World!");  
        }  
    }  
}
```

What is Java?

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The Scanner Class

- While a program is running, we can get input from her by using the Scanner class.

What is Java?
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The Scanner Class

- While a program is running, we can get input from her by using the Scanner class.
- But first we must import the Scanner class.

```
import java.util.Scanner;
```

```
public class Calculator
```

```
{
```

```
:
```

What is Java?

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What does import do?

- What is this import thing!?!?

What is Java?

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What does import do?

- What is this import thing!?!?
- The *import* statement tells the compiler where to look for names, like Scanner.

What is Java?

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What does import do?

- What is this import thing!?!
- The *import* statement tells the compiler where to look for names, like Scanner.
- Instead of writing out java.util.Scanner every time we want to use the Scanner we can just use Scanner instead.

What is Java?
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What does import do?

- What is this import thing!?!
- The *import* statement tells the compiler where to look for names, like Scanner.
- Instead of writing out java.util.Scanner every time we want to use the Scanner we can just use Scanner instead.
- We could also use import java.util.*; This imports everything from the util *package*.
- A *package* is a folder that contains several classes.

What is Java?
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Great so how do we use it?

```
import java.util.Scanner;

public class HW1
{
    public static void main(String[] args)
    {
        Scanner input = new Scanner(System.in);
        System.out.print("What is your name?");
        String name = input.next();
        System.out.print("What is your age?");
        int i = input.nextInt();
    }
}
```

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Great so how do we use it?

```
import java.util.Scanner;

public class HW1
{
    public static void main(String[] args)
    {
        Scanner input = new Scanner(System.in);
        System.out.print("What is your name?");
        String name = input.next();
        System.out.print("What is your age?");
        int i = input.nextInt();
        double d = input.nextDouble();
```

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Great so how do we use it?

```
import java.util.Scanner;

public class HW1
{
    public static void main(String[] args)
    {
        Scanner input = new Scanner(System.in);
        System.out.print("What is your name?");
        String name = input.next();
        System.out.print("What is your age?");
        int i = input.nextInt();
        double d = input.nextDouble();
        input.close();
    }
}
```

What is Java?

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Bonus and a lil' Homework

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Pop Quiz! Vocab edition!

Give a short definition of the following:

- int

What is Java?

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Let's Begin!

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Little Harder

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Bonus and a lil' Homework

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Pop Quiz! Vocab edition!

Give a short definition of the following:

- int
- double

What is Java?

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Let's Begin!

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Little Harder

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Bonus and a lil' Homework

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Pop Quiz! Vocab edition!

Give a short definition of the following:

- int
- double
- String

What is Java?

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Let's Begin!

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Little Harder

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Bonus and a lil' Homework

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Pop Quiz! Vocab edition!

Give a short definition of the following:

- int
- double
- String
- char

What is Java?

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Let's Begin!

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Little Harder

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Bonus and a lil' Homework

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Pop Quiz! Vocab edition!

Give a short definition of the following:

- int
- double
- String
- char
- boolean

What is Java?

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Let's Begin!

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Little Harder

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Bonus and a lil' Homework

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Pop Quiz! Vocab edition!

Give a short definition of the following:

- int
- double
- String
- char
- boolean
- package

What is Java?

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Let's Begin!

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Little Harder

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Bonus and a lil' Homework

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Pop Quiz! Vocab edition!

Give a short definition of the following:

- int
- double
- String
- char
- boolean
- package
- import statement

What is Java?
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Let's Begin!
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Little Harder
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Bonus and a lil' Homework
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Pop Quiz! Vocab edition!

Give a short definition of the following:

- int
- double
- String
- char
- boolean
- package
- import statement
- operation

What is Java?

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Let's Begin!

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Little Harder

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Bonus and a lil' Homework

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Pop Quiz! Vocab edition!

Give a short definition of the following:

- int
- double
- String
- char
- boolean
- package
- import statement
- operation
- if statement

What is Java?
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Let's Begin!
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Little Harder
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Bonus and a lil' Homework
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Pop Quiz! Vocab edition!

Give a short definition of the following:

- int
- double
- String
- char
- boolean
- package
- import statement
- operation
- if statement
- block

What is Java?
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Let's Begin!
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Little Harder
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Bonus and a lil' Homework
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Pop Quiz! Vocab edition!

Give a short definition of the following:

- int
- double
- String
- char
- boolean
- package
- import statement
- operation
- if statement
- block
- argument

What is Java?
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Let's Begin!
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Little Harder
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Bonus and a lil' Homework
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Pop Quiz! Vocab edition!

Give a short definition of the following:

- int
- double
- String
- char
- boolean
- package
- import statement
- operation
- if statement
- block
- argument
- statement

What is Java?
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Let's Begin!
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Little Harder
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Optional Activity

Using if statements and the Scanner class create a calculator in java. The calculator should ask the user what operation she wants to do, and then it should ask for two numbers. After the user puts in this information, the calculator prints out the answer.

What is Java?
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Let's Begin!
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Begin the RPG

Using if statements and the Scanner class create a command line adventure game! This can be either a story where the player is given optional choices that affect the outcome or the player can battle a monster! If you finished the calculator exercise, you can reuse that code for this exercise.

What is Java?
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Let's Begin!
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Little Harder
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Installing Java (Windows Instructions)

- Java can also be installed on iOS and Java. Installation is more or less the same, if not easier than in Windows.
- These instructions were made as of July 2014 for Windows 7. Modifications may be necessary for the future or for other operating systems.

What is Java?
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Let's Begin!
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Where is Java?

- To get the latest version of java, google “java jdk.” Click the first result. For me the site was:

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

- Click JDK (Download).

What is this Netbeans thing? Do I need it? Net beans is an IDE that makes it easier to program. For this class we will be using a different IDE called Eclipse. Downloading it won't hurt, but you might not use it.

- Accept the user agreement, then download the correct distribution for your OS. *x64 is for 64 bit OS's, while x86 is for 32 bit OS's.*

What is Java?
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Let's Begin!
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What it Looked Like for Me

Java SE Development Kit 8u5

You must accept the Oracle Binary Code License Agreement for Java SE to download this software.

Thank you for accepting the Oracle Binary Code License Agreement for Java SE; you may now download this software.

Product / File Description	File Size	Download
Linux x86	133.58 MB	jdk-8u5-linux-i586.rpm
Linux x86	152.5 MB	jdk-8u5-linux-i586.tar.gz
Linux x64	133.87 MB	jdk-8u5-linux-x64.rpm
Linux x64	151.64 MB	jdk-8u5-linux-x64.tar.gz
Mac OS X x64	207.79 MB	jdk-8u5-macosx-x64.dmg
Solaris SPARC 64-bit (SVR4 package)	135.68 MB	jdk-8u5-solaris-sparcv9.tar.Z
Solaris SPARC 64-bit	95.54 MB	jdk-8u5-solaris-sparcv9.tar.gz
Solaris x64 (SVR4 package)	135.9 MB	jdk-8u5-solaris-x64.tar.Z
Solaris x64	93.19 MB	jdk-8u5-solaris-x64.tar.gz
Windows x86	151.71 MB	jdk-8u5-windows_i586.exe
Windows x64	155.18 MB	jdk-8u5-windows-x64.exe

What is Java?

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Let's Begin!

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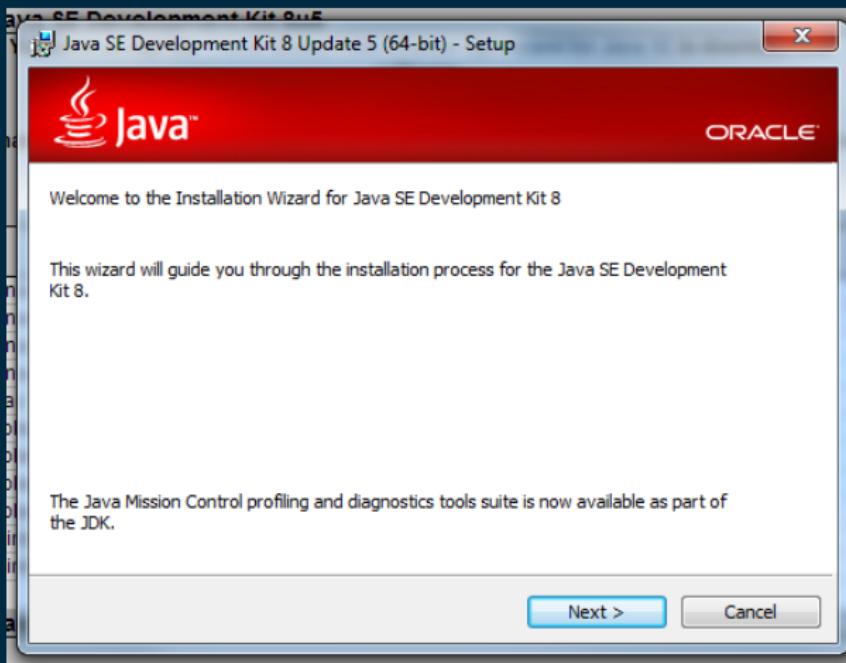
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Click next→next→ok→next



What is Java?
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Let's Begin!
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Changing the PATH variable

- Unfortunately we are not done.
- Find the location of the binaries, kept in the *bin* folder of the jdk. For example:

C:\Program Files\Java\jdk1.8.0_05\bin

- Go to Control Panel→System and Security→System→Advanced System Settings→(Advanced Tab)→Environment Variables.
- Click Path→Edit

What is Java?
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Let's Begin!
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The Important Step!!!

- DO NOT DELETE the content next to “Variable value”.
- Instead append a semicolon and then the location to the end of the variables. For example:
 - Before: ...\\Windows Performance Toolkit\\;C:\\Program Files\\Microsoft SQL Server\\110\\Tools\\Binn\\
 - After: ...\\Windows Performance Toolkit\\;C:\\Program Files\\Microsoft SQL Server\\110\\Tools\\Binn\\;C:\\Program Files\\Java\\jdk1.8.0_05\\bin)

What is Java?
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Let's Begin!
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Bonus and a lil' Homework
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Testing

- To test the correct installation run the following in the Command Prompt:

```
C:\Users\Admin> javac -version  
javac 1.8.0_05
```

```
C:\Users\Admin>
```

What is Java?

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Let's Begin!

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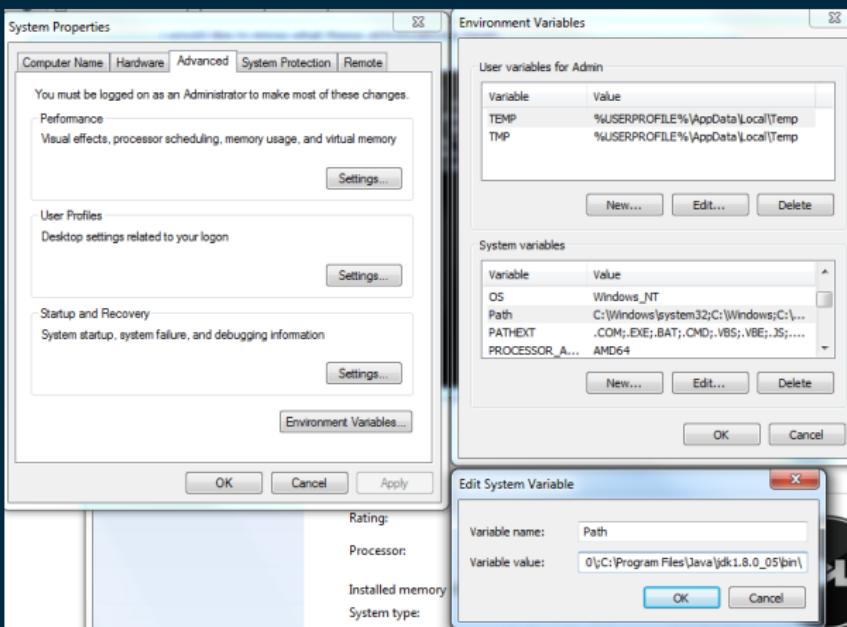
Little Harder

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Bonus and a lil' Homework

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Some Screenshots



What is Java?
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Let's Begin!
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Little Harder
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Bonus and a lil' Homework
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HW sometimes isn't fun, but this HW will be!

The homework is meant to help you remember and retain the information you learn the day you are in class. We will go over the answers the next day. The only policy is you must follow the directions, including spending no more than one hour on the homework! If it's not done that's ok, but try your best.