

(40 pts) Approx. 3 days

All good programs do more than just print things on the screen. If all we wanted was to simply print text to the screen, we could just watch a movie... maybe one with subtitles and no sound. In reality, we usually want our programs to have some kind of user input, and the easiest to work with is the keyboard. To let the user actually type things on the keyboard and pass that information along to the program itself, we need to start working with an object called a **Scanner**. In this part of the unit, you'll learn about Scanners, how to create them, and how to use them to get information from the user.

1. Watch the three videos on Scanners and on the **if statement** control structure. Take a full page of good notes on each, making special note of how to instantiate (create) a Scanner, what methods it can use, and how if statements are formatted!
2. Now, complete the following Java Tasks below that all require using Scanners and/or if statements!
 - a. JAVA TASK 6: Write a program that asks the user to enter two integers, obtains them from the user, and prints their sum, product, difference, and quotient (division).
 - b. JAVA TASK 7: Write an application that asks the user to enter two integers, obtains them from the user, and then displays the larger number followed by the words "is larger". If the numbers are equal, print the message "These numbers are equal."
 - c. JAVA TASK 8: Write an application that inputs three integers from the user and displays the sum, average, product, smallest, and largest of the numbers.
 - d. JAVA TASK 9: Write an application that reads an integer from the user and prints whether or not the number is odd or even.
 - e. JAVA TASK 10: Write a program that takes a decimal number (double) from the user and uses it as the radius of a circle. The program should then print the *diameter*, *area*, and *circumference* of a circle with that radius. Answers should be printed as a decimal, not just an integer.
 - f. JAVA TASK 11: Write an application that inputs one number consisting of five digits from the user, separates the number into its individual digits and prints them separated by a space. For example, if the user typed "42339" the program should print: "4 2 3 3 9".
(A hint): When the user types their number, the computer will understand it as an integer... not as a word. So you need to figure out a way to break up a 5-digit number into it's individual digits. (hint: / and % would be useful here).
3. Finally, take the *Unit 2 Quiz: Beginning Java* linked from our website. Take the quiz on or before **September 20!**

The 5th Operation: **MOD**

You probably thought you knew everything about algebra... but it turns out that +, -, ÷, and × aren't the only operations in the world. There's a **fifth** operation called 'modulus' ("Mod" or "%" for short), and it returns *only the remainder* of a division problem!

EX: $7\%4 = 3$

Part 2: Tasks	6-4 points	3-2 points	1-0 points
 Scanner, If, and % Notes	+ You took a full page of notes on Scanners, If Statements, and %	- You took less than a full page of notes	- Your notes are lacking or missing
	24-20 points (4 pts each)	19-9 points	8-0 points
 Java Tasks 6-11	+ You completed all 6 Java Tasks from this section	- You did not complete all 6 tasks	- You did not complete most/any tasks
	10-9 points	8-5 points	4-0 points
 Take Java Quiz (Sep 20)	+ You took the Unit 2 Quiz on the website by the Quiz Due Date + Grade is based on number correct	N/A	(0 pts) You did not take the Unit 2 Quiz

