1. Practice using some of the many Eclipse features that are presented in this article: <https://www.vogella.com/tutorials/Eclipse/article.html>
2. Within Eclipse, create a new file called “HelloWorld.java”. Add a public static void main method. Print out “Hello World” to the console. Done
3. (Primitive variables) Create a class called Primitives that declares and initializes some primitive variables. Print these out to the console. Also create a String variable and print out to console.
4. (Branching) Create a program that has if/else statements to capture the expressions below.

* If  
  x = 2  
  y = 5  
  z = 0  
  then find values of the following expressions:  
  a. x == 2  
  b. x != 5  
  c. x != 5 && y >= 5  
  d. z != 0 || x == 2  
  e. !(y < 10)

1. (looping) Write a program to print numbers from 1 to 10.
2. Write a program to calculate the sum of first 10 natural numbers.
3. Try creating a labeled while loop. Make the label “outer” and provide a condition to check whether a variable “age” is less than or equal to 21. Within the loop, increment age by 1. Every time the program goes through the loop, check whether “age” is 16. If it is, print the message “get your driver’s license” and continue to the outer loop. If not, print “Another year.” The “outer” label should appear just before the while loop begins. Make sure “age” is declared outside of the while loop.
4. Try creating a switch statement using a char value as the case. Include a default behavior if none of the char values match. Make sure a char variable is declared before the switch statement. Each case statement should be followed by a break. The default case can be located at the end, middle, or top.
5. (command line arguments in Eclipse) Create a program that accepts multiple numbers from the Eclipse command line and then, via a for loop, displays each value. Then for more of a challenge, attempt to add these numbers together. (hint: they will be coming in as Strings, so will need to be processed accordingly)
6. Write a Java program to print the result of the following operations.

Test Data:

a. -5 + 8 \* 6

b. (55+9) % 9

c. 20 + -3\*5 / 8

d. 5 + 15 / 3 \* 2 - 8 % 3

1. Write a Java program to print the sum (addition), multiply, subtract, divide and remainder of two numbers.

*Test Data:*   
Input first number: 20   
Input second number: 4

11. Write a Java program that takes three numbers as input to calculate and print the average of the numbers.

12. Write a Java program to swap two variables.

13. Write a java program, which will take a number variable and check whether the number is prime or not.

Note:  Prime number is a number that is greater than 1 and divided by 1 or itself only. For example, 2, 3, 5, 7, 11, 13, 17.... are the prime numbers

14. Write a Java program to print the ascii value of a given character.

15. Write a Java program which iterates the integers from 1 to 100. For multiples of three print "Fizz" instead of the number and print "Buzz" for the multiples of five. When number is divided by both three and five, print "fizz buzz".

Ex : 3 : fizz

5 : buzz

6 : fizz

9 : fizz

10: buzz

16. Write a program to read a number and calculate the sum of odd digits (values) present in the given number.

Create a class with a static method checkSum which accepts a positive integer. The return type should be 1 if the sum is odd. In case the sum is even return -1 as output.

Create a class Main which would get the input as a positive integer and call the static method checkSum present in the UserMainCode.

**Sample Input 1:**

56895

**Sample Output 1:**

Sum of odd digits is odd.

**Sample Input 2**:

84228

**Sample Output 2**:

Sum of odd digits is even.

17. Write a program to read a number, calculate the sum of squares of even digits (values) present in the given number.

Create a class UserMainCode with a static method sumOfSquaresOfEvenDigits which accepts a positive integer. The return type (integer) should be the sum of squares of the even digits.

Create a class Main which would get the input as a positive integer and call the static method sumOfSquaresOfEvenDigits present in the UserMainCode.

**Sample Input 1:**

     56895

**Sample Output 1:**

      100

18. Write a Program which finds the longest word from a sentence. Your program should read a sentence as input from user and return the longest word. In case there are two words of maximum length return the word which comes first in the sentence.

Include a class UserMainCode with a static method getLargestWord which accepts a string The return type is the longest word of type string.

Create a Class Main which would be used to accept two Input strings and call the static method present in UserMainCode.

**Sample Input 1:**

Welcome to the world of Programming

**Sample Output 1:**

Programming

**Sample Input 2**:

ABC DEF

**Sample Output 2**:

ABC

      19. Another way to ask for input is with the JOptionPane class. Please check the   JavaDocs for this class at https://docs.oracle.com/javase/8/docs/api/index.html. The

  method you want to use for input is [showInputDialog](https://docs.oracle.com/javase/8/docs/api/javax/swing/JOptionPane.html#showInputDialog-java.awt.Component-java.lang.Object-java.lang.String-int-)(null, “Custom message here”,  “Title of box”, JOptionPane.OK\_CANCEL\_OPTION). The return value from this method  will be a String so we can save this to a variable.

String value = .[showInputDialog](https://docs.oracle.com/javase/8/docs/api/javax/swing/JOptionPane.html#showInputDialog-java.awt.Component-java.lang.Object-java.lang.String-int-)(null, “Custom message here”, “Title of box”,  JOptionPane.OK\_CANCEL\_OPTION);

Try using this JOptionPane class in addition to the command line arguments and  scanner methods for capturing user input.

20.?