In requested outputs below, show all output in the order of execution, with correct line breaks, *without mixing in comments or intermediate steps*. You increase your chances of partial credit if you also clearly and *separately* show all significant steps to the answer. **Also definitions will be matching. Definitions are on study guide that you should know. Try these before you look at the answers on page 2!**

What is printed by this code fragment? **Output:**

```
int x = 42, y = 33;                          //1
int z = x + y;                               //2
System.out.println(x + "+" + y + "=" + z);   //3
```

_____

What is printed by this code fragment? Be careful of your index/offset calculations.

```
String s = "whatever";
System.out.println(s.indexOf("hat"));
System.out.println(s.substring(4));
System.out.println(s.substring(1,5));
```

Outputs:

_____

_____

_____

What is printed by this code fragment?

```
int x = 5;                      //1
while (x > 2) {                 //2
   x--;                         //3
   System.out.print(x + "+");   //4
}
```

// Write the actual output here: _____

If x and y are ints, what is printed below if x is 4 and y is 3? If x is 1 and y is 0?

```
if (x != 1 || x < y) {      //1
   System.out.print("A");   //2
}
else {
   System.out.print("B");   //3
}
System.out.println("!");    //8
```

Answer if x is 4 and y is 3: _____

Answer if x is 1 and y is 0: _____

What is printed by this code fragment? (nested loops) Write the output(s) in the space below

```
for (int i = 1; i < 3; i++) {          //1
   for (int j = 1; j < 3; j++) {       //2
       System.out.print(i*2 + 2*j);    //3
   }
   System.out.println();               //4
}
```

Go on to page 2 for the final question!

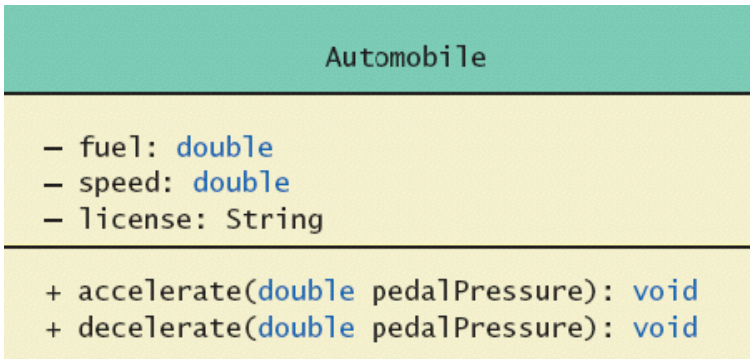
Using Scanner and String methods, write Java statements that do the following:

- **Read two words from the keyboard and assign them to String variables**
- **Print out the original first word, a comma and space, that word in upper case, a comma and space, then the original second word, a comma and space, and that word in lower case, all on the same line**
- **You may need more String variables in addition to the two String variables mentioned above. Pick <u>any</u> variable names you want.**

<u>Fill in your code below</u>:

```
import java.util.Scanner;
public class MixedCaseWords
{
     public static void main(String[] args)
     {
          Scanner keyboard = new Scanner(System.in);
          System.out.println("type in two words and press Enter");
          // fill in your code here!!









     }
}
```

- **With this UML below**
  - **Please write the code for it**
  - **Makes comments in the code you write:**
    - **What is a method**
    - **What is a class**
    - **What is the primitive types**
    - **What are the class types**
    - **Which variables and functions are public or private**



Answers

In requested outputs below, show all output in the order of execution, with correct line breaks, *without mixing in comments or intermediate steps*. You increase your chances of partial credit if you also clearly and *separately* show all significant steps to the answer.

What is printed by this code fragment?

```
int x = 42, y = 33;                          //1
int z = x + y;                               //2
System.out.println(x + "+" + y + "=" + z);   //3
```

Output:

```
z == 42+33 == 75
42+33=75
```

What is printed by this code fragment? Be careful of your index/offset calculations.

```
String s = "whatever";
System.out.println(s.indexOf("hat"));
System.out.println(s.substring(4));
System.out.println(s.substring(1,5));
```

Outputs:

```
1 (start at 0)
ever
hate
```

What is printed by this code fragment?

```
int x = 5;                          //1
while (x > 2) {                     //2
    x--;                            //3
    System.out.print(x + "+");      //4
}
```

x == 4, then 3, then 2
print on one line, not separate lines
loop stops when x == 2 (not > 2)

// Write the actual output here: 4+3+2+

If x and y are ints, what is printed below if x is 4 and y is 3? If x is 1 and y is 0?

```
if (x != 1 || x < y) {      //1
    System.out.print("A");  //2
}
else {
    System.out.print("B");  //3
}
System.out.println("!");    //8
```

Answer if x is 4 and y is 3: A!
first if condition is true, print A
always print !: println outside if's

Answer if x is 1 and y is 0: B!
first if condition is false, print B
always print !: println outside if's

What is printed by this code fragment? (nested loops) **Write the output(s) in the space below**

```
for (int i = 1; i < 3; i++) {          //1
    for (int j = 1; j < 3; j++) {      //2
        System.out.print(i*2 + 2*j);   //3
    }
    System.out.println();              //4
}
```

46 → i is 1, j goes from 1 to 2
68 → i is 2, j goes from 1 to 2
print stays on same line

println each time j loop ends:
println moves to the next line

Go on to page 2 for the final question!

Using Scanner and String methods, write Java statements that do the following:

- **Read two words from the keyboard and assign them to String variables**
- **Print out the original first word, a comma and space, that word in upper case, a comma and space, then the original second word, a comma and space, and that word in lower case, all on the same line**
- **You may need more String variables in addition to the two String variables mentioned above. Pick any variable names you want.**

Fill in your code below:

```
import java.util.Scanner;
public class MixedCaseWords
{
     public static void main(String[] args)
     {
          Scanner keyboard = new Scanner(System.in);
          System.out.println("type in two words and press Enter");
          // fill in your code here!!
          String word1 = keyboard.next(); // next reads one word
          String word2 = keyboard.next();
          String word1Upper = word1.toUpperCase();
          String word2Lower = word2.toLowerCase();
          String c = ", "; // to save a little typing
          System.out.println(word1 + c + word1Upper + c
                              + word2 + c + word2Lower);
          // can also do this with multiple System.out.print statements:
          // System.out.print(word1 + c);
          // System.out.print(word1Upper + c);
          // System.out.print(word2 + c);
          // System.out.println(word2Lower);
          // can also do this without using word1Upper and word2Lower:
          // System.out.println(word1 + c + word1.ToUpperCase() + c
          //                    + word2 + c + word2.ToLowerCase());
     }
}
```

```java
public class Automobile {

	private double fuel = 0.0;
	private double speed = 0.0;
	String license = null;

	public void accelerate (double pedalPressure){
		//some math will go here
	}

	public void decelerate (double pedalPressure){
		//some math will go here
	}

	/****
	 * Class name is Automobile
	 * Private variables are fuel, speed, and license
	 * Primitive types are of double which are fuel and speed
	 * Class type is the String which is license, and Automobile
	 * Public variables, none
	 * Public functions are:
	 * accelerate which has a parameter called pedalPressure of type double no return void
	 * decelerate which has a parameter called pedalPressure of type double no return void
	 *
	 */
}
```