

CS 302 Week 6

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Please form groups of 2 or 3

What is the answer?

```
String s1 = "A very important programming tool.";
String s2 = s1.substring( 13, 14);
String s4 = new String( "Pickup by garbage collector");
if ( s1.contains( "gram")) {
    s4 = s1.substring( 6, 8).trim();
}
char c3 = s1.charAt( s1.indexOf('g') -3);
String answer = (s2 + c3 + s4).toUpperCase();
```

Write code to print out as a grid

```
int [][]grid = {{1,2,3},{4,5},{7,8,9}};
```

1 2 3

4 5 6

7 8 9

Fix problems. What is message?

```
final String END_OF_DATA = null; //sentinel
String []list = {"An", "array", "has", "Strings", null, null};
String message = "";
for( String element : list) //foreach loop
    if ( element != END_OF_DATA)
        message += element + " ";
System.out.println( "message: " + message);
```

Remove Not to simplify

```
if ( ! (teamLabsAttended < 12 || codeLabCount < 150) ) {  
    //what grade do you get?  
}
```

```
( !(teamLabsAttended < 12) && !(codeLabCount < 150)
```

```
teamLabsAttended >= 12    &&    codeLabCount >= 150
```

Are all Strings the same?

```
String []arr = new String[3];  
arr[0] = "hello";  
arr[1] = "hello";  
arr[2] = new String("hello");  
System.out.println( arr[1] == "hello" );  
System.out.println( arr[1].equals( "hello" ));  
System.out.println( arr[2] == arr[1]);  
System.out.println( arr[2].equals(arr[1]));
```

Trading Strings

String strMinsub = "Minsub's string";

String strBen = "Ben's string";

Minsub and Ben would like to trade strings. In other words, Minsub's would become Ben's and Ben's would become Minsub's. How do they do it?

What are values of x, y and z?

```
public static void main(String []args) {  
    int x = 5, y = 10, z = 15;  
    z = swap( x, y);  
    System.out.println( "x=" + x + " y=" + y + " z=" + z);  
}  
  
public static int swap( int y, int x) {  
    x = 1;  
    int z = 1;  
    return x + y + z ;  
}
```

Error? Same?

```
boolean x = false; int y = 5;
if ( x) {
    System.out.println("x is true");
} else if ( y < 5) {
    System.out.println("y < 5");
} else if ( y == 5) {
    System.out.println("y == 5");
} else {
    System.out.println("y > 5");
}
```

```
boolean x = false; int y = 5;
if ( x) {
    System.out.println("x is true");
} else {
    if ( y < 5) {
        System.out.println("y < 5");
    } else {
        if ( y == 5) {
            System.out.println("y == 5");
        } else {
            System.out.println("y > 5");
        }
    }
}
```

Which will compiler allow?

```
static int find( char ch, int num, double d) { }
```

```
int result = find( 'a', 10.5, 3.14);
```

```
char result = find( 'a', (int)10.5, 'z');
```

```
int result = find( 6, 2, 15);
```

```
boolean done = find( (char)6, -1001, 3.9) >= 0;
```

Is it a leap year?

A year is a leap year if it is divisible by 4 but not by 100, or if it is divisible by 400.

Write the code:

Arrays

- **fixed number of same data type (contiguous in memory)**
- **What would we like to do with arrays?**

Arrays

Professional Source Code

Javadocs

Methods (static vs non-static)

ArrayList

```
import java.util.ArrayList;
public class MyClass {
    public static void main( String []args) {
        ArrayList<String> cityList = new ArrayList<>();
        cityList.add( "Denver");
        cityList.add("Madison");
        System.out.println( "Empty:" + cityList.isEmpty());
        System.out.println( "Size: " + cityList.size());
        System.out.println( "toString: " + cityList.toString());
    }
}
```