CS 0007 RECITATION – 9/23/21

LIN ROJTAS – 10:00A – 10:50A

OVERVIEW

- OneDrive Review
- A Note on Primitives
- If structures
- Boolean operations
- Switch case
- Printf
- Midterm Q&A

ONEDRIVE… THOUGHTS?

- Submitting things for us UTAs to grade is hard ☹
- This was our solution
  - You should have received an email from OneDrive… let me know if you didn't!
  - Save that link so you can submit things later (or just go to the Shared tab in your own OneDrive)
  - If you had any specific troubles with it, I'm gonna be lenient about lab submissions. Technically the lab was due last night, but I won't start *actually* grading until sometime Friday afternoon…

A NOTE ON PRIMITIVES

- Sometimes in the lab it can be difficult to decide which variable to use for what… here's some notes

Primitive Type	Notes
byte	Possible values: [-128 thru 127]
short	Possible values: [-32,768 thru 32,767]
char	Make sure you use single quotes! (char letter = 'A';)
int	Possible values: -2,147,483,648 thru 2,147,483,647
long	Possible values: [(-2^63) thru (2^63)-1] Add an l when defining! (long num = 3000000l;)
float	Add an f when defining! (float num = 2.50f;)
double	Ultra precise decimals!

IF STRUCTURES

- Simpler than you might think…
- If this is true, do this. Otherwise, do that.

```
int number = 55;

if (number > 50) {
  System.out.println("This will print");
}
else {
  System.out.println("This will not print");
}
System.out.println("This will also print");
```

EXTENDED IF STATEMENTS

```
int grade = 75;

if (grade >= 90) {
  System.out.println("Grade: A");
}
else if (grade >= 80) {
  System.out.println("Grade: B");
}
else if (grade >= 70) {
  System.out.println("Grade: C");
}
else if (grade >= 60) {
  System.out.println("Grade: D");
}
else {
  System.out.println("Grade: F");
}
```

WHAT GOES IN AN IF STATEMENT?

Condition	Meaning
a == b	Equal to
a > b	Greater than
a < b	Less than
a >= b	Greater than or equal to
a <= b	Less than or equal to
a != b	Not equal to
str1.equals(str2)	Seeing if strings are equal
str1.equalsIgnoreCase(str2)	Seeing if strings are equal while ignoring case sensitivity

WHAT GOES IN AN IF STATEMENT?

```
boolean isRaining = true;
if (isRaining) {
  System.out.println("It is raining");
}

boolean isSunny = false;
if (!isSunny) {
  System.out.println("It is raining");
}

String compareOne = "string";
String compareTwo = "string";

if (compareOne.equals(compareTwo)) {
  System.out.println("These strings are equal");
}
```

BOOLEAN OPERATIONS: NOT, AND, OR

A	B	A && B
TRUE	TRUE	TRUE
TRUE	FALSE	FALSE
FALSE	TRUE	FALSE
FALSE	FALSE	FALSE

A	B	A || B
TRUE	TRUE	TRUE
TRUE	FALSE	TRUE
FALSE	TRUE	TRUE
FALSE	FALSE	FALSE

A	!A
TRUE	FALSE
FALSE	TRUE

SWITCH CASE

- The default keyword is similar to a final “else” in a chain of if statements
- MAKE SURE YOU INCLUDE BREAKS!!!
  - Without the break keyword, monthString keeps getting reassigned and will end up as “Invalid month”

```
int month = 8;
    String monthString;
    switch (month) {
        case 1:  monthString = "January";
                 break;
        case 2:  monthString = "February";
                 break;
        case 3:  monthString = "March";
                 break;
        case 4:  monthString = "April";
                 break;
        case 5:  monthString = "May";
                 break;
        case 6:  monthString = "June";
                 break;
        case 7:  monthString = "July";
                 break;
        case 8:  monthString = "August";
                 break;
        case 9:  monthString = "September";
                 break;
        case 10: monthString = "October";
                 break;
        case 11: monthString = "November";
                 break;
        case 12: monthString = "December";
                 break;
        default: monthString = "Invalid month";
                 break;
    }
    System.out.println(monthString);
```

PRINTF/FORMATTING

```
double dblTotal = 10.555555;
int intValue = 43;
String stringVal = "abc";
System.out.printf("Total is: $%,.2f%n", dblTotal);
System.out.println();
System.out.printf("%d", intValue);
System.out.println();
System.out.printf("%20.10s\n", stringVal);
```

```
Total is: $10.56

43
                 abc
```

- Lots of other easy examples here: https://www.jquery-az.com/10-examples-learn-java-string-formatting-printf-method/

MIDTERM Q&A

FOR NEXT WEEK

- Not sure what I'll do about recitation next week exactly, but make sure you come because I'll have a little surprise for getting through the first exam ;)
- No lab this week – study!!
- Come to office hours if you're struggling!!! I don't bite
- We made a Discord server! https://discord.gg/23weGMFk
  - Joining is optional, but it'll be a good point of contact with us and hopefully a place to make some friends ☺
- WEAR A MASK AND BE SAFE!