



CS0007 Recitation

THURSDAYS 12:00-12:50PM

MICHAEL BARTLETT

TODAY'S SLIDES ARE ADOPTED FROM LIN ROJTAS, ANOTHER CS0007 TA

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: $[(-2^{63}) \text{ thru } (2^{63})-1]$ 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
<code>a == b</code>	Equal to
<code>a > b</code>	Greater than
<code>a < b</code>	Less than
<code>a >= b</code>	Greater than or equal to
<code>a <= b</code>	Less than or equal to
<code>a != b</code>	Not equal to
<code>str1.equals(str2)</code>	Seeing if strings are equal
<code>str1.equalsIgnoreCase(str2)</code>	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

- ▶ No lab this week – study!!
- ▶ Come to office hours if you're struggling!
- ▶ We made a Discord server! <https://discord.gg/23weGMFk>
 - ▶ Joining is optional, but it'll be a good point of contact with us and your peers.