CSC120
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Takeaways from Last Lecture

• Type `bool` only has two possible values: `True`, `False`

• **Relational (or comparison) operators are:** `>`, `>=`, `<=`, `<`, `==`, `!=`
  • Note: when comparing an int with a float, Python compares values and not types.
    • Thus, `2 == 2.0` evaluates to `True`, even though `type(2) == type(2.0)` evaluates to `False`.

• **Logical (or Boolean) operators are** (in order of precedence): `not, and, or`
  • We can use multiple operators to write a more complex Boolean expression.
And vs. Or

- \( \text{var1} = \text{condition}_a \text{ and condition}_b \)
  - \( \text{var1} \) will refer to True if and only if both \( \text{condition}_a \) and \( \text{condition}_b \) evaluate to True.

- \( \text{var2} = \text{condition}_a \text{ or condition}_b \)
  - \( \text{var2} \) will refer to True if at least one of the two conditions (\( \text{condition}_a \), \( \text{condition}_b \)) evaluates to True.
    - Note, “at least one” means it’s OK if both \( \text{condition}_a \) and \( \text{condition}_b \) evaluate to True.
    - TODO: How can you create an exclusive or Boolean expression?
Exercise!

• Assume variable `age` exists. Write a Boolean expression that evaluates to True if age is 12 or 13.

\[
age \text{ == 12 or age == 13}
\]

• Note: writing `(age == 12 or 13)` will NOT work!
  • Advice: when using Boolean operators ensure operands are of type `bool`.
Precedence (from high to low)

• Arithmetic Operators (Highest precedence)
• Relational (also called Comparison) Operators
• Boolean (also called Logical) Operators (lowest precedence)
Exercise!

• Assume two variables named `time` and `day`
• Write an if-statement that prints the string “Free time!”, if day is ‘Friday’ and time is either before 10 or after 18 (assuming a 24hr clock).
Exercise Solution

• Assume two variables named time and day
• Write an if-statement that prints the string “Free time!” if day is ‘Friday’ and time is either before 10 or after 18 (assuming a 24hr clock).

```python
if (day == "Friday") and (time < 10 or time > 18):
    print("Free Time!")
```
Administrative (Posted after lecture)

• Coursework due:
  • Lab3 is due Friday by 9:59pm
  • E2 posted, due Sunday night by 9:59pm

• Lab/Exercise Marks
  • I apologize for the delay.
  • I will test all submitted coursework this weekend.
  • Expect marks/feedback posted early next week.
  • We’ll have a much faster turnaround time moving forward