



Hello,
World!

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EMT1111: Logic and Problem Solving | Fall 2016 | Dr. Mendoza

LESSON 5 (Labs): Conditionals

IF ELSE STATEMENT

if Statement

In Python, selection is implemented using the **if** statement.

An **if** statement includes a **logical expression** which is either *true* or *false*. This is also called a **Boolean expression**. An example of a **logical expression** or **Boolean expression** is:

x < 3

Lab assignment 1 (driving.py)

```
age = 18
if age < 21:
    print("You cannot drink yet")
    print("You can't drive either")
print("Goodbye")
```

Change the program so that it will ask the user to enter his/her age

Logical Expressions

Expression	Logical meaning
$a < b$	True if a is less than b
$a \leq b$	True if a is less than or equal to b
$a > b$	True if a is greater than b
$a \geq b$	True if a is greater than or equal to b
$a == b$	True if a is equal to b. (Two equals signs, to distinguish it from assignment)
$a != b$	True if a is <i>not</i> equal to b.

else Statement

An else is an additional optional phrase on an *if* statement.

```
age = 18
if age < 21:
    print("You cannot drink yet")
    print("You can't drive either")
else:
    print("Drink responsibly")
    print("Drive responsibly")

print("Goodbye")
```

IF AND ONLY IF the *test* in the if is **false** does the block of statements after the else get executed.

Using an *if* with an *else* makes sure that either the *if* block is executed or the *else* block is executed, but **never both**.

Lab assignment 2 (driving2.py)

```
age = 18
if age < 21:
    print("You cannot drink yet")
    print("You can't drive either")
else:
    print("Drink responsibly")
    print("Drive responsibly")

print("Goodbye")
```

Change the program so that it will ask the user to enter his/her age

Lab Assignment 3 (price.py)

Write a Python program to ask the user for the price of an item. Then, depending on the price entered by the user, the program should display one of the following messages:

- "Good price!", if the price is less than 50
- "Regular price", otherwise (price is greater than or equal to 50)

Lab Assignment 4 (adult.py)

Write a Python program to ask the user for his/her birth year. Based on the year entered, the program will calculate the user's age. Finally, depending on the user's age, the program should display one of the following messages:

- *"You are a minor"*, if the user is under 18 years of age
- *"You are an adult. Be responsible."*, otherwise

Lab Assignment 5 (today.py)

Write a Python program to ask the user for the day of the week. Then, depending on the day entered by the user, the program should display one of the following messages:

- *“You have your EMT1111 class today. That means lots of Python programming!”*, if the day is Monday
- *“No Python programming today. Of course you can always practice at home.”*, otherwise