

# Decision Statements

## Part II

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# Last Lecture

- We discussed if statements
- An if statement asks a question and depending on the answer, the computer performs a task.
- What kind of questions can we ask?



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- We discussed if statements
- An if statement asks a question and depending on the answer, the computer performs a task.
- What kind of questions can we ask?
  - True/False or Yes/No



# If Statement

if  $x < 5$ :  Condition/Question

$x = x + 15$

print(x)

What we do if the  
condition is true

else:

$x = x - 15$

print(x)

What we do if the  
condition is false



# If Statement

```
if x < 5:
```

Notice the colon

```
    x = x + 15
```

```
    print(x)
```

Pay attention to  
the indentation

```
else:
```

```
    x = x - 15
```

```
    print(x)
```

Another colon  
and indentation



# Relational Operators

Relation	Operator
Greater Than	>
Greater Than or Equal To	>=
Less Than	<
Less Than or Equal To	<=
Equal To	==
Not Equal To	!=



# Elif

- If we have multiple conditions to test that are related, we can use elif...

```
if score >= 90:
```

```
    print('You received an A! Yay!')
```

```
elif score >= 80:
```

```
    print('You received a B! Yay!')
```

```
elif score >= 70:
```

```
    print('You received a C. Try harder!')
```

```
elif score >= 60:
```

```
    print('You received a D. Try studying more.')
```

```
else:
```

```
    print('You received an F. You may want to ask for help!')
```



What if we want to test  
multiple conditions in one  
if statement?



Example: In order to graduate,  
you must have a 3.0 GPA and  
have 24 Lecture/Arts Credits



# Logical Operators

Logical Operator	Meaning
and	x and y: x has to be true and y has to be true
or	x or y: either x or y has to be true. both can also be true



# Truth Table

A	B	A and B	A or B
TRUE	TRUE	TRUE	TRUE
TRUE	FALSE	FALSE	TRUE
FALSE	TRUE	FALSE	TRUE
FALSE	FALSE	FALSE	FALSE



# Back to Example

- How would we code this?
- In order to graduate, you must have a 3.0 GPA and have 24 Lecture/Arts Credits



# What should I be doing...

- Work on homework assignment
- Ask questions
- Consolidate workspaces