

INTRO TO PYTHON

---

# PROGRAMMING

## REVIEW



---

## LISTS AND SLICING

---

## FETCHING FROM AN INDEX

```
my_list[0]
```

---

## FETCHING FROM AN INDEX

```
my_list[0]
```

→ “first element”

---

## ASSIGNING TO AN INDEX

```
my_list[0] = “new thing”
```

---

## APPEND

```
my_list.append(“new thing”)
```

→ \_\_\_\_\_

---

## SLICE: STEP

```
[start_index:end_index:step]
```

## SLICE: STEP

```
my_list[::-1]
```

→ reverse list

## SPLIT

```
"id, name, date".split(",")
```

→ ["id", "name", "date"]



## FUNCTIONS AND METHODS

## FUNCTION VS METHOD

```
print("Rob")
```

← Input between parentheses

```
"Rob".replace("R", "B")
```

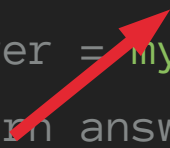
← Main input before dot

## DEFINING A FUNCTION

```
def double(my_name):  
    answer = my_name + my_name  
    return answer
```

## DEFINING A FUNCTION

```
def double(my_name):  
    answer = my_name + my_name  
    return answer
```

 arbitrary label for input

## CALLING A FUNCTION

```
double("Rob")
```

## DEFINING A FUNCTION

```
def double("Rob"):  
    answer = "Rob" + "Rob"  
    return answer
```

# EXERCISES

---

## VALUES: WHAT KINDS ARE THERE?

- ▶ Int
- ▶ Float
- ▶ String
- ▶ ?

---

## EQUALS

```
"this str" == "that str"
```

---

## BOOLEANS

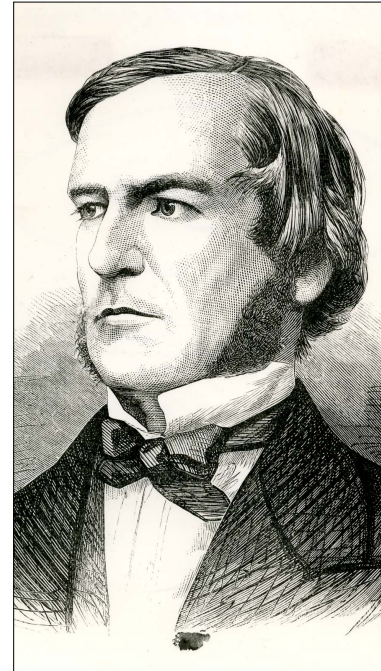
```
100 > 0
```

```
"this str" == "that str"
```

## BOOLEANS

`100 > 0` **True**

`"this str" == "that str"` **False**



**"UNIVERSAL LAWS  
OF THOUGHT WHICH  
ARE ...  
MATHEMATICAL AS  
TO THEIR FORM"**

**George Boole**

## BOOLEAN OPERATORS?

`True + False`

`True * False`

`True / True`

## BOOLEAN OPERATORS?

`True + False`

`True * False`

`True / True`

## BOOLEAN OPERATORS

or  
and  
not

## BOOLEAN OPERATORS

True or False  
True and False  
not True

## BOOLEAN OPERATORS

True or False      $\longrightarrow$    True  
True and False  
not True

## BOOLEAN OPERATORS

True or False      $\longrightarrow$    True  
True and False      $\longrightarrow$    False  
not True

## BOOLEAN OPERATORS

True or False	→	True
True and False	→	False
not True	→	False

## VALUES: WHAT KINDS ARE THERE?

- ▶ Int
- ▶ Float
- ▶ String
- ▶ Bool

## CASTING BETWEEN DATA TYPES

- ▶ int()
- ▶ float()
- ▶ str()
- ▶ bool()

## CONCEPTS COVERED SO FAR

- ▶ Boolean values (True/False)
- ▶ Boolean operators (or, and, not)
- ▶ Casting using bool()



# EXERCISES

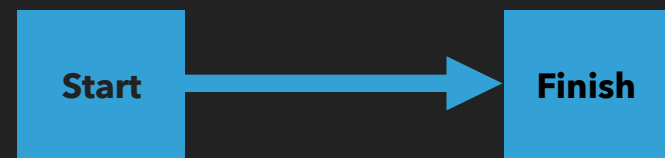
## CONCEPTS COVERED SO FAR

---

- ▶ Boolean values (True/False)
- ▶ Boolean operators (or, and, not)
- ▶ Casting between data types

# WHAT'S MISSING?

## FLOW DIAGRAM





---

## CONDITIONAL STATEMENTS

- Directs route taken by program
- Hinges on Boolean expressions

---

## EXAMPLES OF CONDITIONS

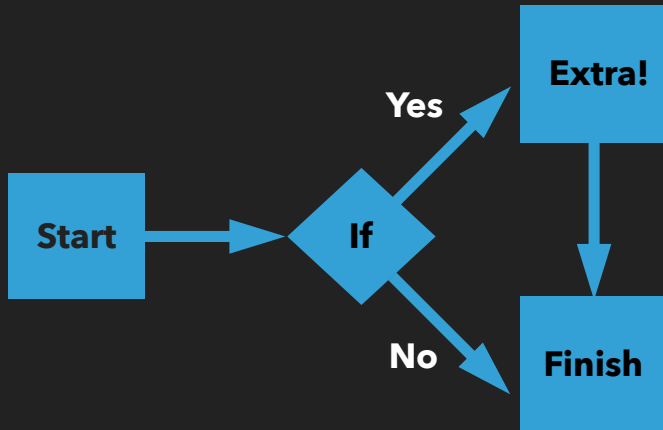
- `my_name == "Rob"`
- `age > 21`
- `name in list_of_guests`

---

## IF STATEMENT

```
if condition_is_true:  
    print("extra code runs!")
```

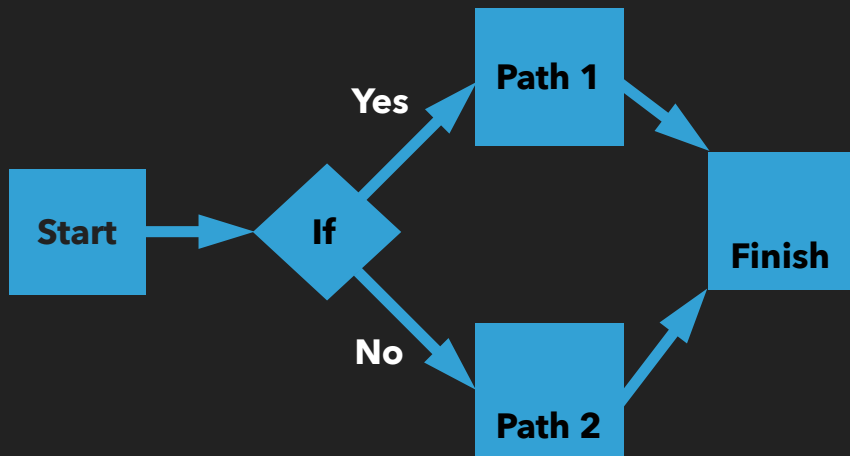
## FLOW DIAGRAM



## IF-ELSE STATEMENT

```
if condition_is_true:
    print("path #1 runs")
else:
    print("path #2 runs")
```

## FLOW DIAGRAM



## IF-ELIF-ELSE STATEMENT

```
if condition_is_true:
    print("path #1 runs")
elif second_condition_is_true:
    print("path #2 runs")
else:
    print("path #3 runs")
```

## FLOW DIAGRAM

## FLOW DIAGRAM



---

## CONDITIONAL STATEMENTS

- Directs route taken by program
- Hinges on Boolean expressions

## EXERCISES