DATA DETECTIVES

INTRODUCTION TO COMPUTER PROGRAMMING
WITH PYTHON

JNB1 MICHAEL JORDAN'S HIGHEST SCORING GAME

WHAT WILL YOU GET OUT OF THE DATA-DETECTIVES ACADEMY LEVEL 1 PROGRAM?
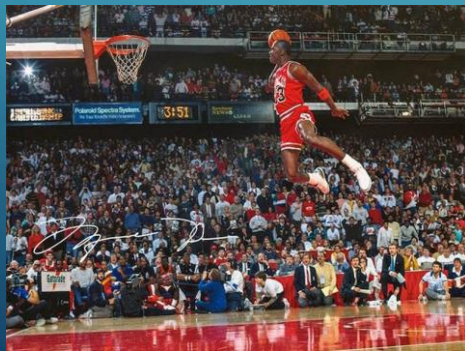
- Guidance and Encouragement from a Mentor

- Learn several different uses of computer such as data analysis

COVID-19 Data

Budgets

Rap Lyrics

WHAT WE WILL COVER IN TODAY'S LESSON

- What a computer is

- What a computer program is

- What Python is

- What variables are (in breakout rooms)

- An introduction to functions (in breakout rooms)

WHAT IS A COMPUTER?

- A **computer** is a special m _ _ _ _ _ _ for working with information.
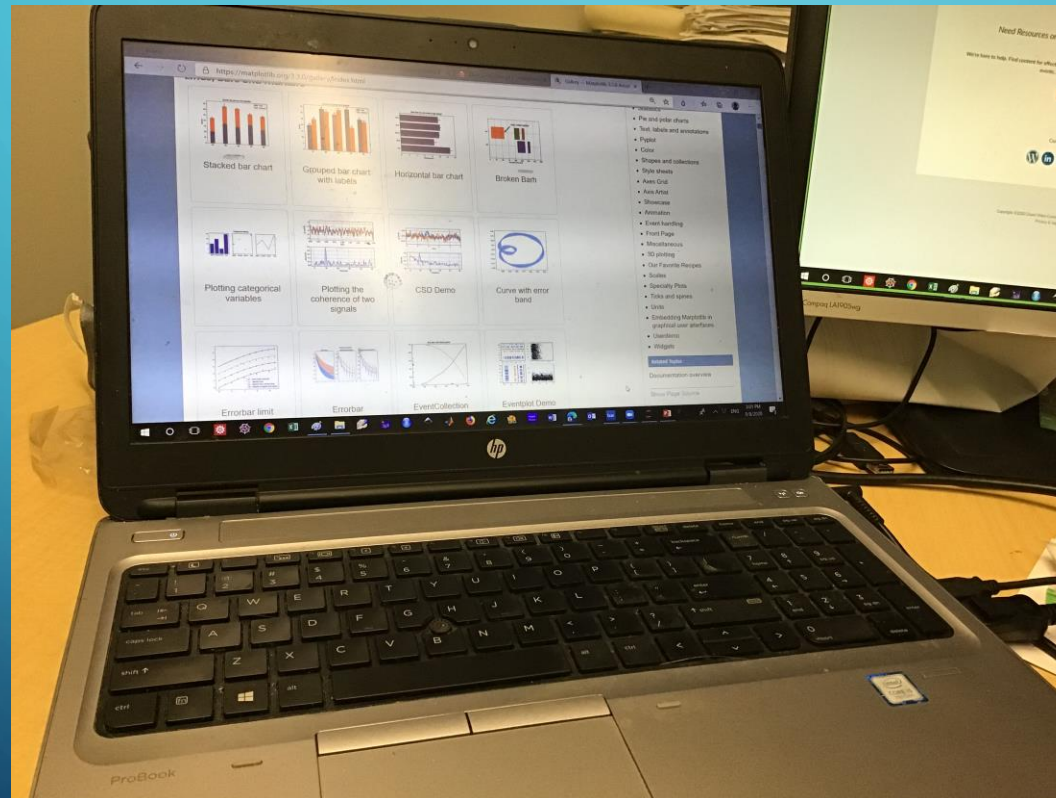
WHAT IS A **COMPUTER PROGRAM?**

- A **computer program** is a set of instructions for the computer

- The term **code** means a small p _ _ _ _ _ _.

```python
def MyCOVID(COVID,zip):
    alreadychecked=0  #eliminate duplication of information
    for z in COVID.index:  #go through all the index values
        if COVID.loc[z,"zip"]==zip and alreadychecked==0:     #found the zip we requested (first-ti
            alreadychecked=1  #we will only do this once
            df=COVID[COVID["zip"]==zip]
            numtested=df["tests"].max()
            numdeaths=df["deaths"].max()

            print("Zip code: ", COVID.loc[z,"zip"])
            print("population is ", COVID.loc[z,"population"])
            print("number tested is ", numtested)
            print("number deaths ", numdeaths)
    return ("Enter a different zip code if you wish.")
```

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WHAT IS A PROGRAMMING LANGUAGE?

A **programming language** is a way of giving the computer instructions in a way that the computer can u _ _ _ _ _ _ _ _ _.

```
1   def add(a,b):
2       sum = a+b
3       return sum
```

WHAT IS PYTHON?

- **Python** is a programming language.

- The **Python** language is one of the most popular worldwide.

- **Python** is one of the tools used by many data scientists, a profession that is currently in high demand. It take a lot of work to become a professional data s _ _ _ _ _ _ _ _.

Here are a few Python Users
circle all the companies you recognize

VARIABLES

- A **variable** is a place to store information.

- Imagine I told you to get a box and label the box with a big X. Then write the number 3 on a small slip of paper and put it into the box marked with an X. Then, if I say tell me what is in box X, you would answer the number 3.

- A **variable** is like a box. So in Python, we must provide the name of the variable, and what I _ _ _ _ _ _ _ _ _ _ to store in that variable.
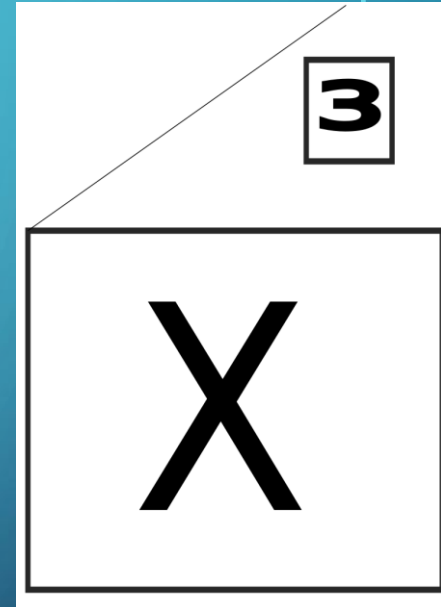
QUESTION

If Seimone Augustus is exactly 6 feet tall, how many inches tall is she?

FUNCTIONS

A **function** is a set of instructions that tells the computer to:

- Take a piece of information we give   Seimone's height in ft and in: feet=6, inches=0

- Do something with the information   convert her height to inches:

    (remember there are 12 inches in 1 foot)

- Then give us a new piece of information Seimone's height in inches is 72

The usefulness of a function is that a function should work for a _ _ height in feet and inches, not just for Seimone's height of 6 feet 0 inches.

In today's lesson, our main goal is to learn how to create a **f** _ _ _ _ _ _ _ _ in Python.