HELLO BLACK WORLD

INTRO TO THE BLACK DIGITAL WORLD I CODING WITH PYTHON

Amy Yeboah Quarkume

Associate Professor of Africana Studies & Data Science
College of Arts and Sciences | Graduate School
Howard University

Introduction to the BLACK DIGITAL WORLD I Coding with Python

Module 3: Variable Names

Learning Goals

- Define the rules when naming a variable
- Assign a value to a variable

Black Women and Human Computers

During the 1950s, NASA embarked on its journey with what we today recognize as computers. However, many male engineers and scientists were skeptical about these machines, doubting their reliability compared to human calculations. They unfairly labeled computer programming as "women's work" and entrusted the new IBMs to the women at JPL. This decision offered women a unique opportunity to engage with and master computer programming. It's not astonishing, then, that the initial computer programmers at the JPL lab were women.

Mary Jackson was one of the "human computers" portrayed in the film "Hidden Figures." (Image credit: NASA)

Black Women and Human Computers

"A remarkable group of African American women, working at what would become NASA's Langley Research Center in Virginia, were breaking down their own gender and racial barriers. Dorothy Vaughan joined the team in 1943. Already having to ride in the colored section of a segregated bus, she was put to work in the "colored" computers section. In 1951, Vaughan became the first African American manager at Langley and started, like her cohorts on the West coast, to hire women. That same year, Mary Jackson joined her team, working on the supersonic pressure tunnel project that tested data from wind tunnel and flight experiments." NASA

Black Women and Human Computers

Katherine Johnson— who was awarded the Presidential Medal of Freedom in 2015 by President Barack Obama—joined the team at Langley in 1953. A physicist, space scientist and mathematician, Johnson provided the calculations for Alan Shepherd's historic first flight into space, John Glenn's ground-breaking orbit of the earth and the trajectory for Apollo 11's moon landing."

Nov. 24, 2015 President Barack Obama presents the Presidential Medal of Freedom to NASA mathematician Katherine Johnson

Variable Names

Variables are used to store a value, and these values have a data type.

Data types describe the kind of information that is being stored. Numbers are different than text, and integers are different from numbers with decimals.

Variable declaration is when you create a variable and assign it a value. Enter the name of the variable you want to create, a `=` (called the assignment operator), and the value you want to store in the variable. You do not have to indicate the data type when declaring a variable. Use the `print` statement to see the value of the variable.

Variable Names

To create a variable

1. Enter the name of the variable you want to create,
2. Add the symbol `=` (called the assignment operator)
3. And the value you want to store in the variable. *You do not have to indicate the data type when declaring a variable.*
4. Use the **`print`** statement to see the value of the variable.

Variable Names

```
Greeting = "Hello, Black World"
print(Greeting)
```

Do not use quotation marks when printing a variable. Using quotation marks will print the variable name, not its value.

```
Greeting = "Hello, Black World"
print(Greeting)

print("Greeting")
```

Variable Naming Rules

Here are the rules for declaring a variable.

Rule	Correct	Incorrect
Start with a letter or underscore	variable, _variable	1variable
Remainder of variable name is letters, numbers, or underscores	var_i_able, var1able	var-i-able, var!able

Variable Naming Rules

Rule	Correct	Incorrect
Cannot use a Python keyword	my_class	class
Variables are case sensitive	variable, Variable, and VARIABLE are all different variables	

Assigning Value

The value stored in a variable can change. Use the assignment operator to give a variable a new value.

The image above is **not** declaring two variables called **Greeting**. The first line declares the variable because this is the first instance. The second line overwrites **Hello, Black World** with **What's Up**. Enter the code below and see the results of the print commands. Use the code visualizer to see how the value of **Greeting** changes.