Introduction to Programming: Python

By Odin Outsourcing

Motivational video

1. Coding is not difficult (7 min)
2. Abu's Story (4 min)
3. How Search Works (4 min)
4. Why Programming Is Important? (6 min)
5. Don't Be A Programmer (4 min)
6. If Programming Was An Anime (4 min)
7. If Programming Was An Anime Part-2 (7 min)
8. The Mysterious Life of Developers (3 min)
9. A day in the life of a Google Software Engineer (6 min)

Online Resources

Video:

1. Learn Python (from freeCodeCamp.org)
2. Python Programming (from Derek Banas YouTube)

Web Links:

1. GeeksForGeeks Python
2. Visualized Python Programming

Essential Software

Online Python IDE: Python GeeksForGeeks, Google Colab, Python Visualizer

Python Interpreter: Download Python 3.5+ (Optional)

Syntextual Python (1)

Basic Printing …

Start

1. print("Hello ODIN") # Double Quotation
2. print('Hello ODIN') # Single Quotation

End

Syntextual Python (2)

Basic Printing …

```
# Start

3.  print('4'+'5')

4.  print('Hello', 'how is your job going?')

5.  print('4'+5)

6.  print(int('4')+5)

# End
```

Syntextual Python (3)

Basic Printing ...

```
# Start

print(111)    # Integer Number

print(19.71) # Floating Number

# End
```

Syntextual Python (4)

Basic Calculation ...

1. print(4+5)
2. print(4.6+9)
3. print(4-6)
4. print(8*8)
5. print(24/5)
6. print(24//5)
7. print(24%5)
8. print(2**3)

Syntextual Python (5)

Basic Calculation ...

9. print(4+5-6)
10. print(4*5-6)
11. print(4+(5-6)+(7*3)+(14//3))
12. print(4**(6-2)+(7*3)+(14%3))

Syntextual Python (6)

Print using: format( )

1. print('{ } { } { }'.format(4, 5, 6))
2. print('A = { }, B = { }, C = { }'.format(4, 5, 6))
3. print('Our company name is: { }'.format('Odin Outsourcing'))

Exercise-1 (Practical)

1. Find the outputs and describe, why it happens?

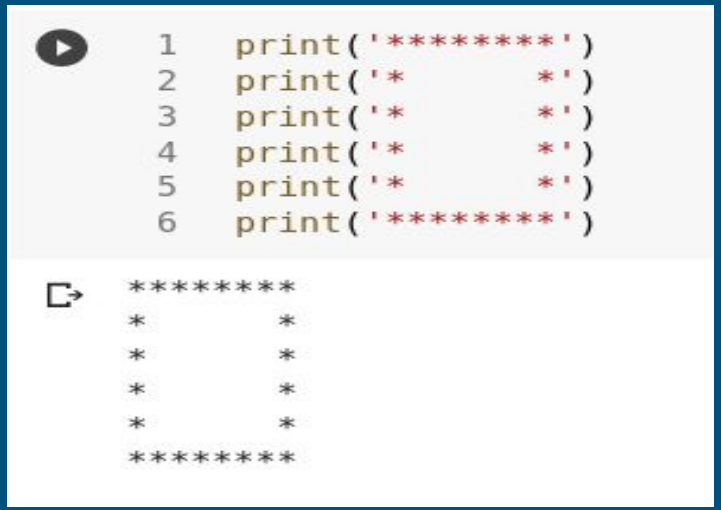
```
print(1, 2, 3, 4)
print(1, 2, 3, 4, sep='*')
print(1, 2, 3, 4, sep='#', end='&')
```

2. Are you want to do more exercise? Then jump here.

Exercise-2 (Practical)

1. Draw the numbers (0, 1, 2, …, 9) with the “print( )” function.

   e.g.



```
1  print('********')
2  print('*      *')
3  print('*      *')
4  print('*      *')
5  print('*      *')
6  print('********')
```

```
********
*      *
*      *
*      *
*      *
********
```

2. Write your nickname with the “print( )” function.

Variable & Value (0)

Variable & Value (0)

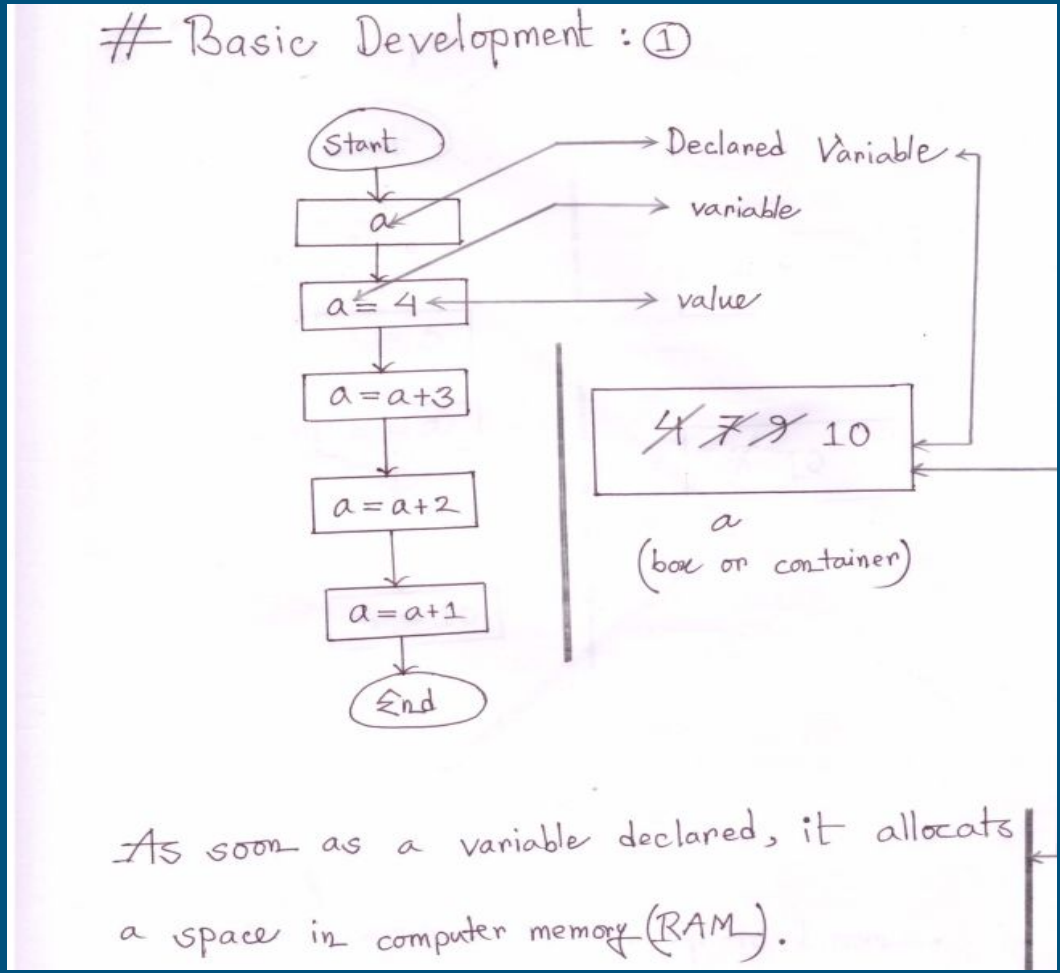
Money bag → variable	Money → value
Box → variable	Ball → value

Variable & Value (1)

```
1   a = 0
2   a = 4
3   a = a + 3
4   a = a + 2
5   a = a + 1
```

```
1   a = 0
2   print(a)
3   a = 4
4   print(a)
5   a = a + 3
6   print(a)
7   a = a + 2
8   print(a)
9   a = a + 1
10  print(a)
```

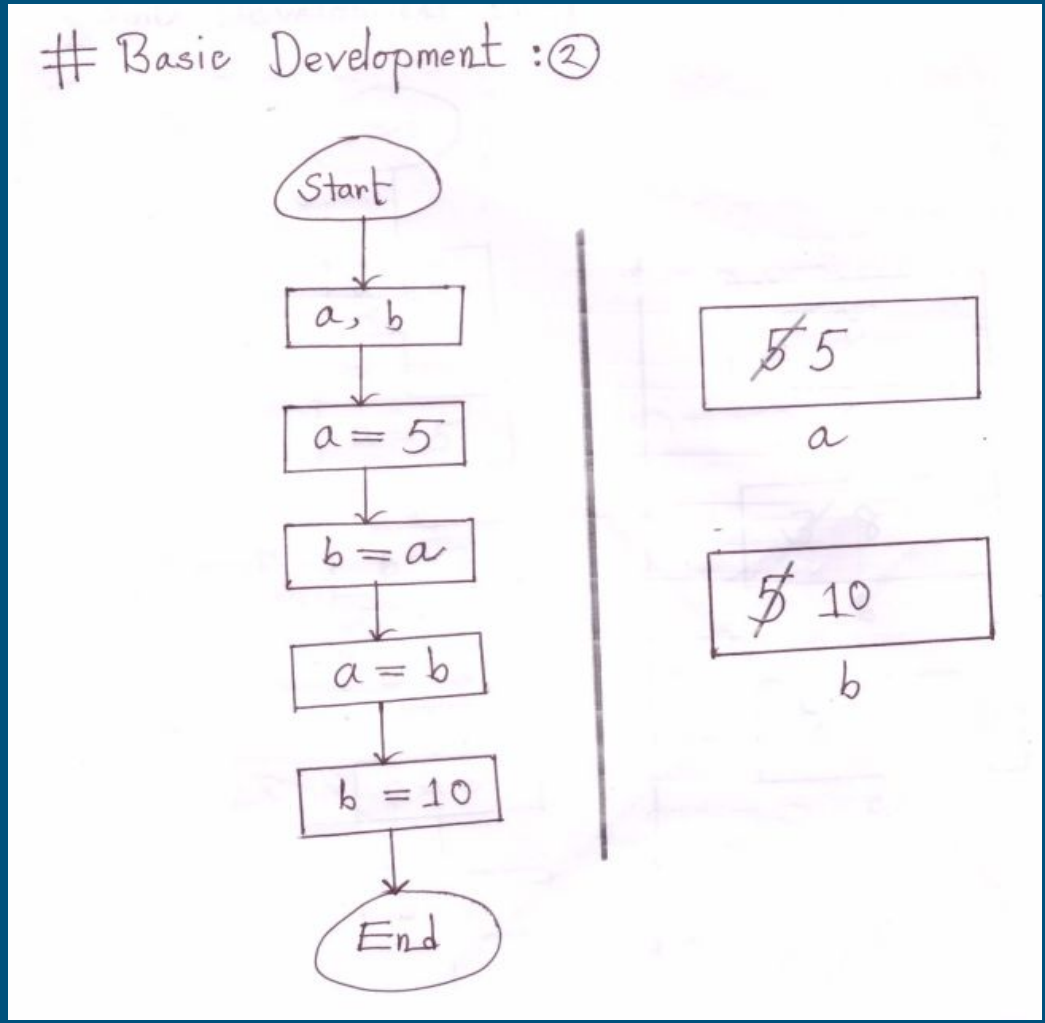
```
0
4
7
9
10
```



Variable & Value (2)

```
1  a, b = 0, 0
2  a = 5
3  b = a
4  a = b
5  a = 10
6
7  print(a)
8  print(b)
```

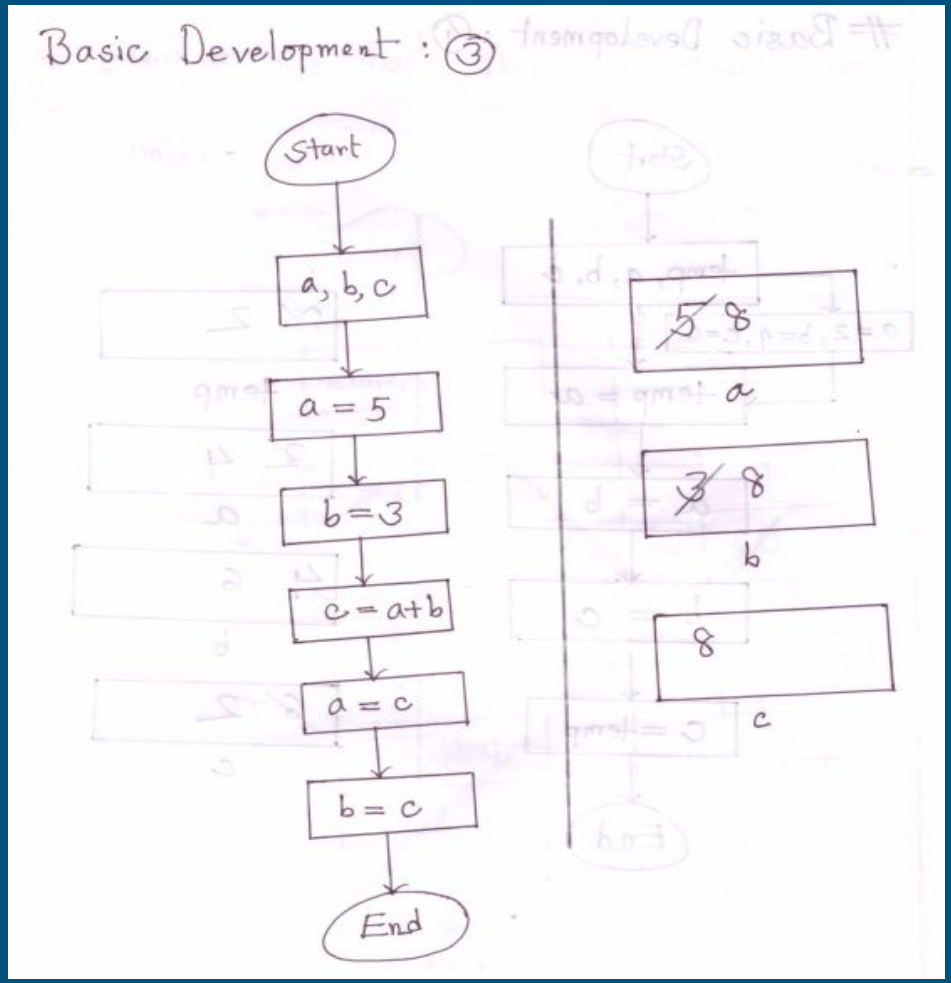
```
10
5
```



Variable & Value (3)

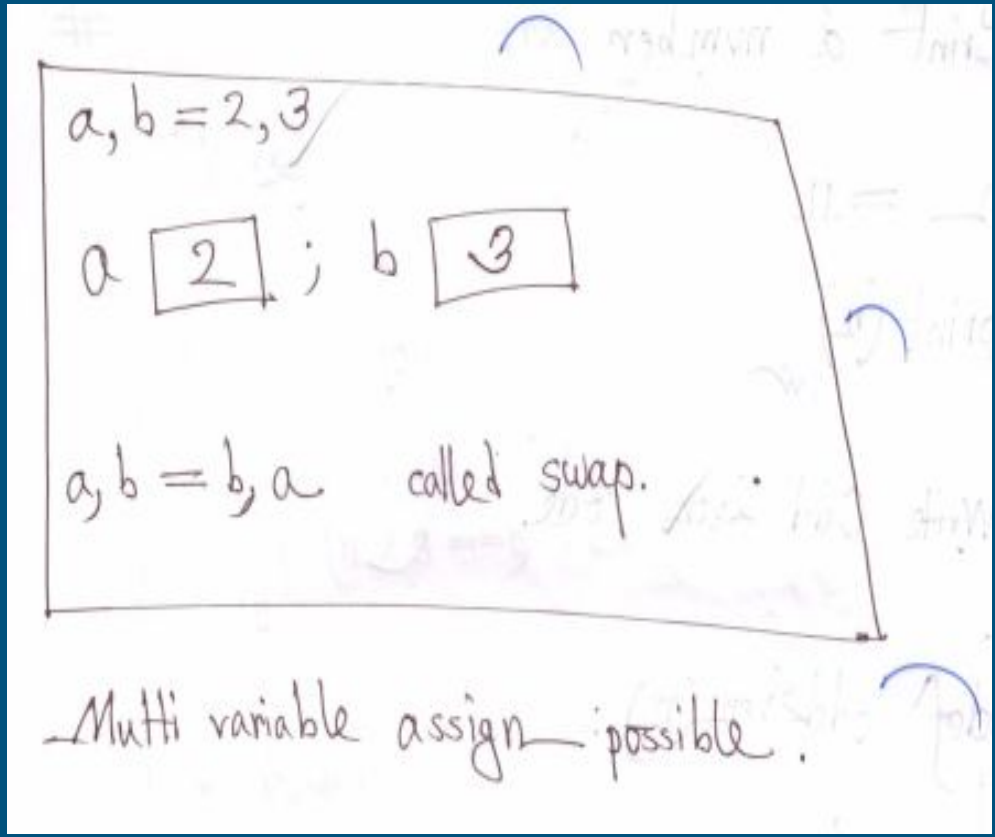
```
1   a, b, c=0, 0, 0
2   a = 5
3   b = 3
4   c = a + b
5   a = c
6   b = c
7
8   print(a, b, c)
```

```
8 8 8
```

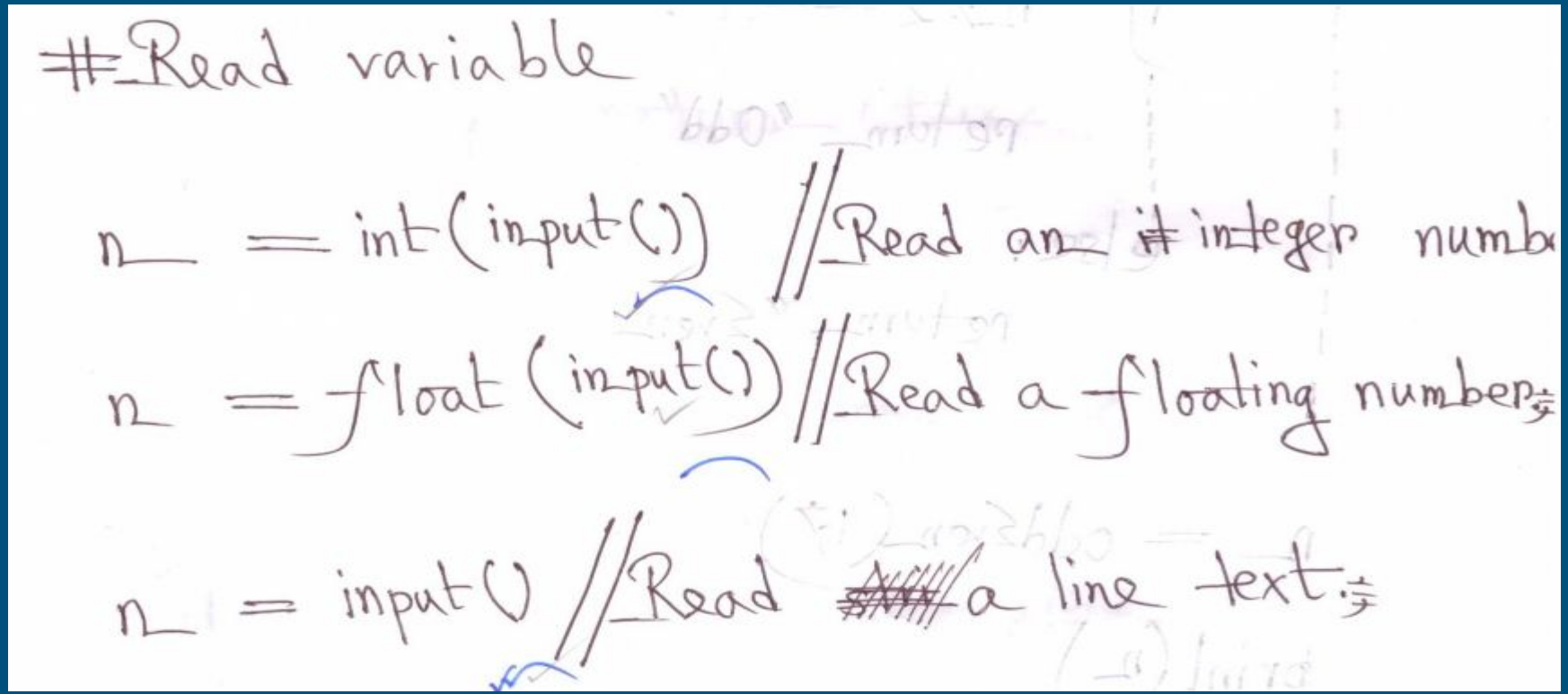


Variable & Value (4)

Two number swapping



Input from Keyboard



Exercise-3 (Practical)

1. Take two input from the prompt and show the results.
2. Take two input from the prompt and add 5 those inputs, then show the results.
3. Take input 1971.19521948 as a number but display with:

   A. 2 decimal point (1971.19)

   B. 3 decimal point (1971.195)

   C. 4 decimal point (1971.1952)

Exercise-3 (Practical)

1. Take two **integer** number as inputs and

   A. summation those numbers.

   B. subtraction those (first number **from** second number) numbers..

   C. multiply those numbers.

   D. divide those (first number **over** second number) numbers.

Exercise-4 (Practical)

1. Take “name”, “ID number” and “field of interest” from user and print in the below format:

Output Sample: Hello, my name and ID are **Rafsanjani** and **141**, respectively. My research interest **Data Analysis and Web Data Mining**.

2. Write a program to find the square of a number.

→ Sample Input-1: 5 Sample Output-1: 25

→ Sample Input-2: 7 Sample Output-2: 49

Exercise-5 (Theoretical)

1. Which Python version are you using currently?
2. What is an expression?
3. What is a syntax error?
4. What is a variable?
5. What is PEP8?

Contract your instructor!

Find Me: http://rafsanjani.pythonanywhere.com/contact

Course Website: https://mrzresearcharena.github.io/Big-Data-using-Python

Thank you!