



We'll Be Starting Shortly!

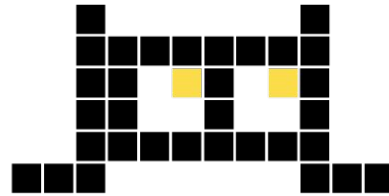
To help us run the workshop smoothly, kindly:

- Submit all questions using the Q&A function
- If you have an urgent request, please use the "Raise Hand" function
- Materials at <https://bit.ly/3a6qkUE>



Introductory Python

by



Learn to Code, Code to Learn
CODING ACADEMY



Hi!

We are Juliana, Thomas and Geraldine
from LCCL Coding Academy

What You Will Learn



19:00 Segment 1

- Introduction
- What's Does a Program Do?
- Printing
- Primitive data types
- Operators
- Input
- Variables
- Hands-on #1 & #2

19:45 Segment 2

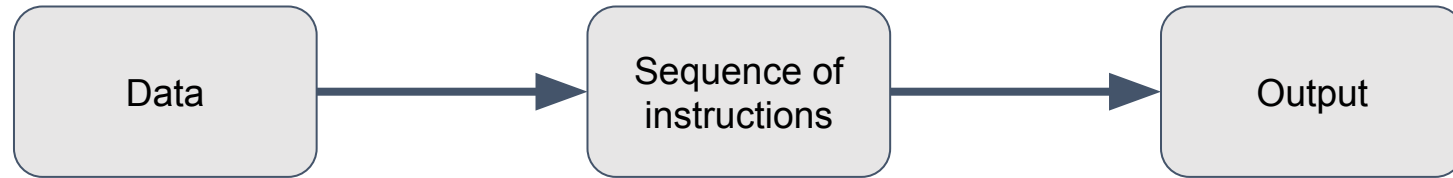
- Conditionals
- Hands-on #3
- Loops
- Hands-on #4
- Functions
- Hands-on #5
- Hands-on #6

19:40 Break, Q&A

20:50 Feedback, Q&A

21:00 End

What's Does a Program Do?



- Hard coded
- CLI/terminal
- Files
- Sensors
- Database
- API calls
- etc

- CLI/terminal
- Files
- Database
- etc

Arithmetic Operators



+	Addition
-	Subtraction
*	Multiplication
**	Exponentiation
/	Division
//	Integer division
%	Remainder

Arithmetic Operators Precedence



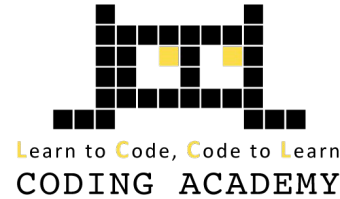
**	Exponentiation
-n +n	Unary plus, minus
* / // %	Multiplication, division, integer division, remainder
+ -	Addition, Subtraction

String Operators



*	Duplication
+	Concatenation

Hands-On #1



Write a program that begins by reading the amount of money deposited into a savings account from the user.

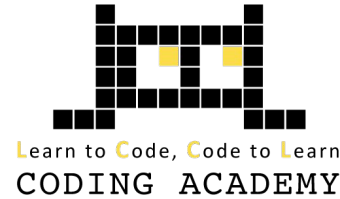
Your program also reads the interest earned per annum.

Assume that the interest earned is paid at the end of the year, and is added to the balance of the savings account.

Your program should compute and display the amount in the savings account after 1, 2, and 3 years.

```
Principal (S$): 8500
Interest (%) : 1.8%
Balance after 1st year: S$ 8653.00
Balance after 2nd year: S$ 8808.75
Balance after 3rd year: S$ 8967.31
```

Hands-On #2



A sub-program on a vending machine determines how much change, in which denominations, to dispense to the user.

Write the sub-program. It begins by reading in the amount of change in dollars. In a real setting this would be auto-calculated.

The program computes and displays the denominations that is be used to give that amount of change to the user. The change should be given using as few coins and notes as possible. Assume that the machine is loaded with \$10, \$5, \$2, \$1, 50c, 20c, 10c.

Change (\$) : 9.80

\$10 x 0

\$5 x 1

\$2 x 2

\$1 x 0

50c x 1

20c x 1

10x x 1

Comparison Operators

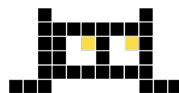


==	Equal
!=	Not equal
>	Greater than
<	Less than
>=	Greater than or equal to
<=	Less than or equal to

Logical Operators



X	Y	X and Y	X or Y	not X
True	True	True	True	False
True	False	False	True	False
False	True	False	True	True
False	False	False	False	True



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Hands-On #3

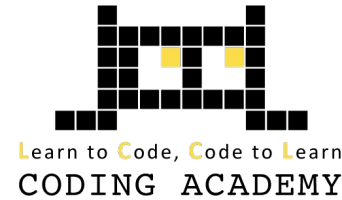
You are an engineer at a telco tasked to create a bill generator. A particular mobile plan includes 120 minutes of talk time, 50 SMS-es, and 5GB data for \$50.00 a month.

Each additional usage incur a cost:

- 1 additional minute of talk time: \$0.25
- 1 additional SMS: \$0.15 each
- 1 additional GB data: \$10.70, capped at \$188 per month

The entire bill is subject to 7 percent sales tax.

Write a program that reads the number talk time minutes, SMS-es and data used in a month from the user. Display the base charge, additional minutes charges (if any), tax and total bill amount.

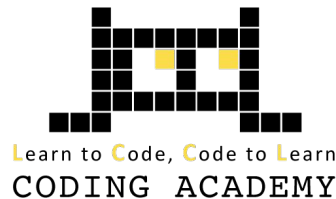


Talk time (mins):	121
SMS	: 60
Data (GB)	: 3
BILL	
=====	
Base charge	: \$ 50.00
Additional charges:	
Talk time	: \$ 0.25
SMS	: \$ 1.50
Data	: \$ 0.00

Sub-total	: \$ 51.75
GST (7%)	: \$ 3.62

TOTAL	: \$ 55.37

Hands-On #4



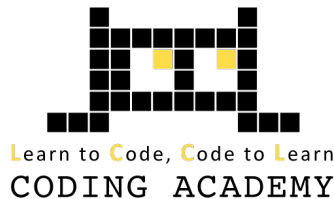
Create a program that reads numbers until it reaches a blank input. Output the average of the numbers. Provide proper output for all cases.

```
Enter a number: 7.6
Enter a number: 8.8
Enter a number: 20
Enter a number: 13.4
Enter a number: 9.7
Enter a number:
Average of 5 input numbers: 11.90
```

Hands-On #5

Create a function that takes the coordinates of two points as its arguments, and returns the distance between the two.

```
def distance(x1, y1, x2, y2):  
    # enter code here
```



Hands-On #6

Create a function that calculates the total utility bill, given the amount of electricity and water consumed within the month.

The tariffs are as follows:

Water

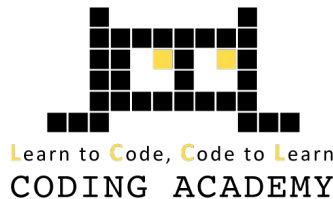
\$1.21/m³ for volumes below 40m³

\$1.52/m³ for volumes 40m³ and above

Electricity

20.76 cents/kWh

Your function should return the amount in dollars, factoring in 7% government service tax.



```
def bill(kwh, cubicm):  
    # enter code here
```


Recap



Segment 1

- What's Does a Program Do?
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Segment 2

- Conditionals
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- Hands-on #6

Get
Complimentary Video



<https://LccLcoding.com/shopee>



Your Feedback Matters!



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