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| *school-learn-study-hat-graduate-512.png* | ***Study*** |

Read Chapter 5, section 5.1, 5.3, 5.5, 5.6, 5.7 and 5.10 of “How to Think Like a Computer Scientist: Learning with Python 3”:

<https://drive.google.com/open?id=1S1f_krK63QLamUvte2CmYeMoPylgwW7B>

And then answer the following questions:

1. What is Boolean? Write down 3 different expression that results a Boolean type (i.e. 5 == 6)

Boolean is an expression that is either true or false

Ex: 5 == 5, 5 >6, 5 >=6

1. What is a flow chart? Draw flow chart for the following code snippet: (you can draw on a paper, take a picture of it)

A flowchart is a type of diagram that represents an algorithm, workflow or process. The flowchart shows the steps as boxes of various kinds, and their order by connecting the boxes with arrows. This diagrammatic representation illustrates a solution model to a given problem

if name == “Huy be":

print(“Hand some")

elif name == “Huy big":

even\_more\_handsome = True

else:

webbrowser.open(“<https://www.youtube.com/watch?v=04854XqcfCY>”)

Input name

Name == “Huy be”

F

T

Name == “Huy big”

“Hand some”

T F

Open web

Even\_more\_handsome

1. What is nested conditionals? Write a piece of code that uses nested conditionals

Nested conditional is one conditionals which be nested within another.

Ex:

n = int(input("Nhap mot so bat ky: "))

if n > 13:

print("So ban nhap lon hon 13")

elif n == 13:

print("So ban nhap bang 13")

else:

print("So ban nhap nho hon 13")

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| *http://www.bestappsforkids.com/wp-content/uploads/2012/04/save-turtle.png* | ***Turtle exercises*** |

Using turtle to draw the following shapes:

|  |  |
| --- | --- |
| Screen Shot 2015-12-25 at 04.41.55.png | 2.  Hi-CBUEkYGb-DOPBqc1p-_os3fG83P3OxHLgEhilkO4 |
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| *6iporAnbT.jpg* | ***Serious exercises*** |

1. Write a program that asks user their height (cm) and weight (kg), and then calculate their BMI (Body Mass Index):

BMI = mass (kg) / (height(m) x height(m) )

Note: you must do the conversion from cm to m before calculation

Then based on the BMI, tell them that they are:

* Severely underweight if BMI < 16
* Underweight if BMI is between 16 and 18.5
* Normal if BMI is between 18.5 and 25
* Overweight if BMI is between 25 and 30
* Obese if BMI is more than 30

1. Write a program that
   1. Asks users enter a number and then calculates factorial of n: (1 \* 2 \* 3 \*... \*n)
2. Study how to print without moving to a new line

Each time we call print(...) to print out something, python will automatically move to a new line, for example, the following snippet:

print("Hello")

print(",my name")

print("is B-max")

will result:

Hello

,my name

is B-max

Your task: Try to search and learn how to print without moving to new line,:

print("Hello", ...)

print(",my name", ...)

print("is B-max", ...)

# "..." is the piece of code you would add

so that the result would be

Hello,my name is B-max

1. Print out the following patterns, remember that the number of columns and rows can be changed later, so try to write programs that can scale
   1. 20 x 1 stars:

\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

* 1. n stars (n is entered by users)

Enter a number: 17

\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

* 1. 9 stars and xs **in total**

x \* x \* x \* x \* x

* 1. n stars and xs **in total** (n is entered by users)

Enter a number: 13

x \* x \* x \* x \* x \* x \* x

* 1. You can use **print()**, (yes, print with **nothing inside the parentheses ()**) to move to a new line, try it
  2. 7 x 3 stars

\* \* \* \* \* \* \*

\* \* \* \* \* \* \*

\* \* \* \* \* \* \*

* 1. n x m stars (n, m are entered by users)

Enter n: 5

Enter m: 3

\* \* \* \* \*

\* \* \* \* \*

\* \* \* \* \*

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| system_config_boot.png | ***Tools preparation*** |

Watch the homework submission tutorial