Session 2: Assigment

1. **What is Boolean?**

A Boolean value is either true or flase.

A Boolean expression is an expression that evaluates to produce a result which is a Boolean value.

**Write down 3 different expression that results a Boolean type (i.e. 5 == 6)**

>>> #Is seven equal 7 to the result of 4 + 3?

>>> 7 == (4 + 3)

True

>>> 7 == 10

False

>>> g = “Entschu”

>>> g + “digung” == “Entschudigung”

True

1. **What is a flowchart?**

As a program executes, the interpreter always keeps track of which statement is about to executed. Execution always begins at the first statement of the program. Statements are executed one at a time, in order from top to bottom. We call this the **control flow**, of the **flow of execution** of the program.

A **flowchart** is **type of diagram** drawn to **make control flow easier** to **visualize and understand**.

**Draw flow chart for the following code snippet: (If you can draw on a paper, take a picture of it).**

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>”)

1. **What is nested conditionals?**

When one conditional is nested within another. We call that is a nested conditional.

**Write a piece of code that uses nested conditionals.**

num = int(input(“nhap so =”))

if num >= 10:

if num == 0:

print(“Zero”)

else:

print(“Positive Number”)

else:

print(“Negative Number”)

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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