**Part 1: Answer following questions**

1. What is Boolean?

A Boolean can be an expression or a statement that evaluate to produce a result which is either **true** or **false**. There are 6 common comparison operators which all produce a bool result:

* X == Y
* X != Y
* X > Y
* X < Y
* X >= Y
* Y <= Y

3 different expressions that results a Boolean type:

* 6 >= 2 + 3
* 100 < 100//2
* hit = 110

hot\_enough\_to\_boil\_water = hit >= 100

print(hot\_enough\_to\_boil\_water)

1. What is a flow chart?

A work flow is often formulated in the programming environment. In conditional statement, it visualizes which indented statement will get executed after evaluating whether the first statement is true or false

FALSE

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

FALSE

even\_more\_handsome

name == “Huy big"

“Hand some"

TRUE

FALSE

TRUE

name == “Huy be"

1. What is nested conditionals?

Assume that The outer conditional (1) contains two branches. If The second branch contains another if statement (2), which has two branches of its own, then we can say that (2) is nested within (1). other branches could also contain conditional statements as well.

x = *int*(input("nhap x: "))

y = *int*(input("nhap y: "))

if x < y:

print("Long")

else:

if x > y:

print("Long Vip")

else:

print("Not Long")

**Part 2: Turtle Exercises**

1. Drawing shape:

from turtle import \*

speed(0)

pencolor('red')

color('red')

right(150)

for i in range (4):

forward(200)

right(60)

forward(200)

right(120)

forward(200)

right(60)

forward(200)

left(150)

right(90)

mainloop()

1. Drawing shape

from turtle import \*

speed(0)

color('red')

pencolor('red')

for i in range (4):

forward(100)

left(90)

left(120)

for i in range (6):

forward(100)

right(60)

pencolor('blue')

right(12)

for i in range (5):

forward(100)

right(72)

right(48)

for i in range (2):

forward(100)

right(120)

pencolor('red')

forward(100)

right(180)

mainloop()

**Part 3: Serious Exercises**

1. Calculating BMI:

x = *int*(input("your height is (cm): "))

y = *int*(input("your weight is: (kg) "))

BMI = *int*(y / (x/100)\*\*2)

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

print("-> your BMI is equal to:", BMI)

if BMI < 16:

print("you're: Severely Underweight")

elif BMI < 18.5:

print("you're: Underweight")

elif BMI < 25:

print("you're: Normal")

elif BMI < 30:

print("you're: Overweight")

else:

print("you're: Obese")

1. Calculating factorial

x = *int*(input('enter a number: '))

factorial = 1

if x < 0:

print("Sorry, factorial does not exist for negative numbers")

elif x == 0:

print("The factorial of 0 is 1")

else:

for i in range(1, x + 1):

factorial = factorial\*i

print("The factorial of",x,"is",factorial)

1. Print output in 1 line only

print("Hello", *end* = '')

print(",my name", *end* = '')

print("is B-max", *end* = '')

1. Print shape
2. Solution

for i in range (20):

print('\* ', *end* = '')

1. Solution

n = *int*(input('enter a number: '))

for i in range (n + 1):

print('\* ', *end* = '')

1. Solution

n = 9

for i in range (1, n, 2):

print("x", "\* ", *end* = '')

if n % 2 == 1:

print("x", *end* = '')

1. Solution

n = *int*(input('enter a number: '))

for i in range (1, n, 2):

print("x", "\* ", *end* = '')

if n % 2 == 1:

print("x", *end* = '')

1. Solution

print("long")

print()

print("dep trai")

1. Solution

n = 9

m = 9

for i in range (0, 3):

print("\* ", *end* = '' )

for i in range (1, 7):

print("\* ", *end* = '' )

print('')

1. Solution

n = *int*(input('enter a number: '))

m = *int*(input('enter a number: '))

for i in range (0, 3):

print("\* ", *end* = '' )

for i in range (1, 7):

print("\* ", *end* = '' )

print('')