VIETCODE ACADEMY INTRODUCTION TO PROGRAMMING

Class 2:
Conditional Statement

TEACHER INFORMATION

TEACHER

TEACHING ASSISTANT

Comparisons

In programming, there are simple comparison methods:

1. less than (<)
2. less than or equal to (<=)
3. greater than (>)
4. greater than or equal to (>=)
5. equal (==)
6. different (!=)

* NOTE RETURN RESULTS WILL BE BOOLEAN TRUE OR FALSE

Example

```
a=6
b=5
print(a>b)
```

```
True
```

```
a=6
b=5
print(a<=b)
```

```
False
```

```
a=6
b=5
print(a!=b)
```

```
True
```

```
a="Bear"
b="Bear"
print(a==b)
```

```
True
```

Calculations with Boolean

In programming we need to note three basic calculations with Boolean:

1. and:
   - If both sides are satisfied, the result is True, otherwise it is False
2. or:
   - As long as one side is satisfied, the result is True, otherwise it is False
3. not:
   - Contrasting, not True is False and not False is True

Summary

1. And:
   - True and False => False
   - False and False => False
   - True and True => True
2. Or:
   - True or False => True
   - True or True => True
   - False or False => False
3. Not:
   - Not True => False
   - Not False => True

Questions

Predict the output of the following code:

```
a=2
b=4
print(a<b and a**2>=b)
```

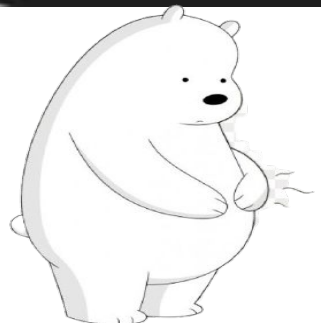
True

```
a=True
b=False
print(a and (a or b))
```

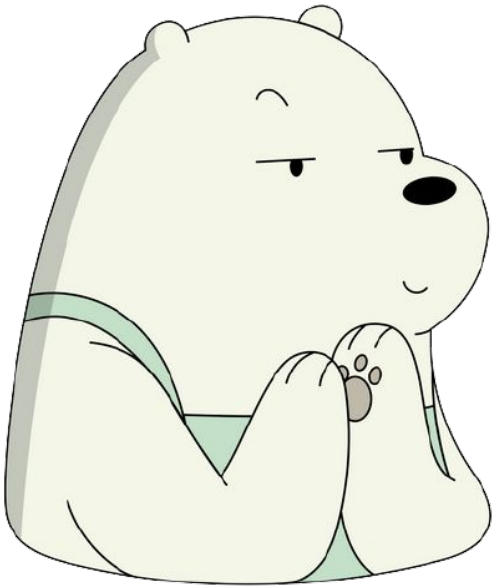
True

```
a=6
b=9
print(a>b and (a+4>b or b<10))
```

False



Conditional statement



In programming or in life, we have to make decisions based on some conditions.

For example, if it's hot today, Teache. Bear will go for lemon tea, and if it's cold, Teacher Bear will drink cocoa. So how to put it into programming?

```
is_hot=True
if (is_hot):
    print("drink lemon tea")
else:
    print("drink cacao")
```

Structure of a conditional statement

As we have seen in the example above, the conditional statement has the following basic structure:

```
if (Boolean value):
    code1
else:
    code2
```

When the Boolean value received in if is True, code1 will run and if the value received is False, code2 will run.

Complex conditional statement

However in programming or in life we have to make more decisions than two.

For example, when it's hot, Teacher Bear drinks lemon tea, when it's humid, Teacher Bear drinks milk tea with buffalo's feet, when it's cold, Teacher Bear drinks cacao. What to do then?

```
weather="wet"
if weather=="hot":
    print("drink lemon tea")
elif weather=="wet":
    print("drin bubble tea")
else:
    print("drink cacao")
```

Structure of complex conditional statement

As we have seen in the example above, the complex conditional statement has the following basic structure:

```
if (condition 1):
        code1
elif (condition 2):
        code2
elif (condition 3):
        code3
….
else:
        coden
```

If the condition returns True, the code of that segment will run, if not, the coden will run

PRACTICE WITH INCLASS2