lab01/hw01 review

NJU SICP22 TAs

Congratulation!

- You've finished very difficult tasks for new programmers.
- Now, you know the basic components in programming:
  - Variable & Variable's scope
  - Evaluation of expressions
  - Branching
  - Iteration
  - Function & Function call
- You solve challenges with them!
  - You've also learnt basic python programming.
    - Try to write cleaner code ☺
  - You have boundary conditions in mind now.

lab01

- Main point: decompose the problem with *Iterating* & *Branching*.
- We've shown all solutions last week.
- Sample solutions are given in QQ group. Check it yourself!

hw01

- A thorough review of variable & expression & loop & branch & function…
- Sample solutions are given in QQ group.

Hw01/1

- A Sub Abs B
  - Key point: function as mathematical object
  - “first-class citizen”: can be assigned to variable

```
sub(a, b)
```

```
h = sub
h(a, b)
```

Hw01/2

- Two largest of three
  - Key point: different views of same computation

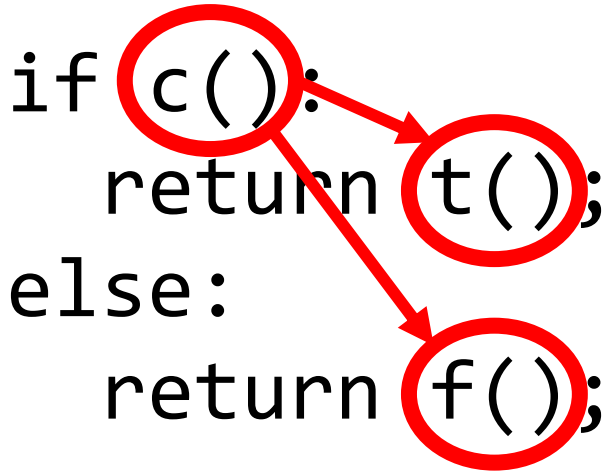
```
Largest two numbers' summation:
a + b + c – min(a, b, c)
Or
max(a + b, b + c, a + c)
```

Hw01/3

- Largest factor
  - similar to lab01/5

Hw01/4

- If function & If statement
  - Key point: evaluation order




```
if_function(c(), t(), f())
=>
if condition:
  return true_result;
else:
  return false_result;
```

Hw05/5

- Hailstone
  - Just a simulation

Hw05/6

- Failing factorial
  - Key point: introduce iteration counter

```
n = 10
while n > 0:
    # do something
    n--
```

Hw05/7

- Double ones
  - Key point: introduce variable to memorize former bit

```
former = ...
while ...:
  if former is 1:
     # ...
  else:
     # ...
```

Q&A