

Choose One Problem You Like

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#Problem 01

You want to design a program to switch the digits in a two-digit integer. For example, the user input 36, your program will print 63.

Hint: // and % operators

#Problem 02

The user will give you two integers a and b ($a < b$). Your program will sum up all the integers from a to b, and print out the result.

Input: 3 7

Output: 25

Hint: for loop

#Problem 03

The user will give you an integer n. You want to design a program to print all the multiples of 6 which are less than or equal to n. When you print these numbers, please make each line contain 6 numbers, and each number has a width 8

Hint:

'{0:8}'.format(i) means i will have a width 8

print(your_variable, end="") means there is no new line after this print.

Input: 100

Output:

6	12	18	24	30	36
42	48	54	60	66	72
78	84	90	96		

#Problem 04

You want to design a robot. It will generate an integer in its mind randomly. The integer should be between 1 to 10 (10 is included). The user can input his answer until he get the right answer. Your robot will tell him if the number he guessed is larger than, less than or equal to the integer in its mind.

Hint: while loop, import random,

random.choice(range(0,6)) means you can get a random number from 0 to 5.

Input

Usually, your programs needs some input from users. For example, you have a program which can solve equations, and you want the users to input equations. SO, here you need to use input function.

```
a = input() # This is the basic format of input. The variable a will record the words that the user typed with keyboard.
```

#Example 01 – Welcome

```
a = input() #You want the user to input his or her name here
print('Welcome to the programming world', a)
```

```
# Add some words to let the user know what he or she needs to input
user_name = input('Please input your name:') #You want the user to input his or her name here
print('Welcome to the programming world', user_name)
```

Attention: All the input is string!

#How to input an integer

```
my_int = int(input()) #Use this statement to convert string to integer
```

#How to input several integers

```
a , b , c = map(int,input().split()) # This statement is very important! Please try to memorize it.
```

#When you use this input statement, you should use space to separate different variables.

For example: 12 30 5

#Example 02 – Three integers

```
a , b , c = map(int,input().split())
print('My first integer is', a)
print('My second integer is', b)
print('My third integer is', c)
```

Advanced Printing

#Example 01 – separator

```
a = 'Py'
b = 'thon'
print(a,b)
print(a,b, sep="") #Use sep="" to replace the whitespace separator between items.
```

#Example 02 – end

```
for i in 'Python':
```

```
print(i)
```

```
for i in 'Python':
```

```
    print(i, end="") #Use end="" to replace the new line after print.
```

String Format

```
>>> print('{0} and {1}'.format('cat','dog'))
```

```
cat and dog
```

```
>>> print('{1} and {0}'.format('cat','dog'))
```

```
dog and cat
```

#Example 01 – integer

```
for i in range(1,20):
```

```
    print('{0:5}'.format(i),end="") #Each i you print out has a width 5, and there is no new line  
    of this print
```

```
    if(i == 10):print()
```

#Example 02 – float point number

```
for i in range(1,20):
```

```
    a = i /3
```

```
    print('{0:5.2f}'.format(a),end=' ')
```

```
    if(i == 10):print()
```