

# Python CCC101

## Env

pycharm

## Debugging skills:

1. print
2. Breakpoint, step over/step into/step out

Find shortcut: double shift

## Comments

```
#, ""
```

## Variable

```
x=100
```

```
# convert type  
int(), float(), str()
```

## Input

```
i = input()
```

## Output

```
print("hello", end='')
```

```
("%.2f" % 123.456)
```

## Data types

### Number

+, -, \*, /, //, \*\*, %, +=

**Boolean:** True, False  
not, or, and

## String

```
s = "hello"  
"abc"+"def"  
s=s*3
```

**Special chars:** \n

## indexing

```
s[1], s[-1]
```

## slicing:

```
s[0:3]  
s[::-1]
```

## # split

```
c1,c2='a b'.split()
```

## # replace

```
s=str.replace("a", "A")  
s=str.replace("a", '')
```

## # query

```
str.count("a")  
'abc'.find('a')
```

## # case

```
str.lower()
```

## # list to str

```
''.join(l)
```

## Statement

```
If, elif, else  
for c in iterable:  
    pass
```

```
while True:  
    pass
```

break, continue

nested loop

## Functions

```
def add(a,b):  
    return a+b
```

## Build-in function

```
list(), set()
```

```
l.sort(), ll=sorted(l)  
l.reverse(), ll=reversed(l)
```

```
len()
```

## # range

```
range(start,stop,step)
```

## # math

```
max(), min(), sum(), abs()
```

## Iterable(Collection)

### List:

```
list1=[1,2,3]  
nested_list=[1,2,3,[4,5]]
```

### read:

```
list1[index]  
nested_list[3][1]
```

### query:

```
list1.index("a")  
list1.count("a")
```

```
update: list1[1]="two"
```

### Add:

```
l.append(1)  
l.insert(index, "a")
```

### delete:

```
l.remove("a")  
l.pop(); l.pop(index)  
l.clear()
```

```
join: l+[3,4]
```

```
copy: l2 = l[:]
```

### convert:

```
list1=list(str)  
",".join(iterable)
```

### Set:

```
s=set()
```

```
s={1,2}
```

```
Add: s.add('one')
```

### delete:

```
s.remove('a')  
s.pop()  
s.clear()
```

## Dictionary

```
d={}  
d={'key': 'value'}
```

```
read: d['key']
```

```
update: d['key']=100
```

### Add:

```
d['non_exist_key']=100
```

### delete:

```
d.pop(key)
```

```
query: 'key' in dict1
```

## Random

```
import random  
random.randint(a,b)  
(a<=x<=b)
```

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