

# Japanese Looping

GroovyJavawhile {...}

```
def x = 0
def y = 5

while ( y-- > 0 ) {
    x++
}

assert x == 5
```

## for

```
GroovyforMap
forbeta-10
// for (int i = 0; i < 5; ++i) // beta-10
```

```

// Range
def x = 0
for ( i in 0..9 ) {
    x += i
}
assert x == 45

// List
x = 0
for ( i in [0, 1, 2, 3, 4] ) {
    x += i
}
assert x == 10

//
array = (0..4).toArray()
x = 0
for ( i in array ) {
    x += i
}
assert x == 10

// Map
def map = ['abc':1, 'def':2, 'xyz':3]
x = 0
for ( e in map ) {
    x += e.value
}
assert x == 6

// Mapvalue
x = 0
for ( v in map.values() ) {
    x += v
}
assert x == 6

// String(char)
def text = "abc"
def list = []
for ( c in text ) {
    list.add(c)
}
assert list == ["a", "b", "c"]

```

each()eachWithIndex()for

```
def stringList = [ "java", "perl", "python", "ruby", "c#", "cobol",
                  "groovy", "jython", "smalltalk", "prolog", "m", "yacc" ];

def stringMap = [ "Su" : "Sunday", "Mo" : "Monday", "Tu" : "Tuesday",
                 "We" : "Wednesday", "Th" : "Thursday", "Fr" : "Friday",
                 "Sa" : "Saturday" ];

stringList.each() { print " ${it}" }; println "";
// java perl python ruby c# cobol groovy jython smalltalk prolog m yacc

stringMap.each() { key, value -> println "${key} == ${value}" };
// Su == Sunday
// We == Wednesday
// Mo == Monday
// Sa == Saturday
// Th == Thursday
// Tu == Tuesday
// Fr == Friday

stringList.eachWithIndex() { obj, i -> println " ${i}: ${obj}" };
// 0: java
// 1: perl
// 2: python
// 3: ruby
// 4: c#
// 5: cobol
// 6: groovy
// 7: jython
// 8: smalltalk
// 9: prolog
// 10: m
// 11: yacc

stringMap.eachWithIndex() { obj, i -> println " ${i}: ${obj}" };
// 0: Su=Sunday
// 1: We=Wednesday
// 2: Mo=Monday
// 3: Sa=Saturday
// 4: Th=Thursday
// 5: Tu=Tuesday
// 6: Fr=Friday
```