



Loops

while loop

```
while (condition) {  
    /*...*/  
}
```

do-while loop

```
do {  
    /*...*/  
} while (condition)
```

for loop

```
val list = listOf("a", "b", "c")  
for (s in list) {  
    print(s)  
}
```

abc

for loop

```
val list = listOf("a", "b", "c")  
for (s: String in list) {  
    print(s)  
}
```

abc

for loop

```
val map = mapOf(1 to "one",  
                2 to "two",  
                3 to "three")
```

```
for ((key, value) in map) {  
    println("$key = $value")  
}
```

1 = one
2 = two
3 = three

for loop

```
val list = listOf("a", "b", "c")  
for ((index, element) in list.withIndex()) {  
    println("$index: $element")  
}
```

```
0: a  
1: b  
2: c
```

for loop

including upper bound

```
for (i in 1..9) {  
    print(i)  
}
```

123456789

excluding upper bound

```
for (i in 1 until 10) {  
    print(i)  
}
```

123456789

for loop

```
for (i in 9 downTo 1 step 2) {  
    print(i)  
}
```

97531

Iterating over String

```
for (ch in "abc") {  
    print(ch + 1)  
}
```



What will be printed?

```
for (ch in "abc") {  
    print(ch + 1)  
}
```





Iterating over String

```
for (ch in "abc") {  
    print(ch + 1)  
}
```

bcd



Which one is the right way to rewrite the following Java code into Kotlin:

```
for (char c = '0'; c < '9'; c++) {  
    System.out.print(c);  
}
```

1. `for (c in '0' to '9') { println(c) }`
2. `for (c in '0'..'9') { println(c) }`
3. `for (c in '0' until '9') { println(c) }`





Which one is the right way to rewrite the following Java code into Kotlin:

```
for (char c = '0'; c < '9'; c++) {  
    System.out.print(c);  
}
```

012345678

1. `for (c in '0' to '9') { print(c) }`
2. `for (c in '0'..'9') { print(c) }`
3. `for (c in '0' until '9') { print(c) }`