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Boost Your Productivity with Kotlin

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Who Am I ?

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现工作：字节跳动—抖音短视频

曾就职于：

Github：smallSohoSolo

Blog：smallsoho.com

成年人的世界哪有容易二字
有的，容易胖

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Kotlin真的很容易写

写Kotlin一时爽

一直写一直爽

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data class

```kotlin
data class User(
    val name: String,
    val age: Int
)
```

```java
public class User {

    private String name;
    private int age;

    public User(String name, int age) {
        this.name = name;
        this.age = age;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public int getAge() {
        return age;
    }

    public void setAge(int age) {
        this.age = age;
    }

    @Override
    public boolean equals(@Nullable Object obj) {
        if (obj instanceof User) {
            User eqUser = (User) obj;
            return this.name.equals(eqUser.name) && this.age == eqUser.age;
        } else {
            return false;
        }
    }
}
```

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中缀表达式

```
infix fun sameAge(user: User):Boolean {
    return this.age == user.age
}
```

```
fun main() {
    val xiaoM = User( name:"xiaoM", age:13)
    val xiaoW = User( name:"xiaoW",  age:18)
    if (xiaoM sameAge xiaoW) {
        println("You have same age")
    }
}
```

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标准函数

```
fun main() {
    dealCityInfo(JSONObject( json: "data")) {
        // do sth fail
    }
}
```

```
private fun dealCityInfo(data: JSONObject?, fail: () -> Unit) {
    data?.takeIf { it: JSONObject
        it.has( name: "city_info")
    }?.takeIf { it: JSONObject
        with(it.getJSONObject( name: "city_info")) { this: JSONObject!
            return@takeIf has( name: "title") && has( name: "data")
        }
    }?.let { it: JSONObject
        it.getJSONObject( name: "city_info")
    }.apply { this: JSONObject?
        // do something
    } ?: fail()
}
```

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扩展px2dp

```
fun Float.dp(context: Context): Int {
    return TypedValue.applyDimension(
            TypedValue.COMPLEX_UNIT_DIP,
            value: this,
            context.getResources().getDisplayMetrics()
    ).toInt()
}

fun Main(context: Context) {
    println(1f.dp(context))
}
```

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扩展Post

```
fun Activity?.Main(todo: () -> Unit) {
    Handler().post {
        todo()
    }
}

fun Activity?.Worker(todo: () -> Unit) {
    Thread {
        todo()
    }.start()
}
```

```
class MainActivity : AppCompatActivity() {

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

        Worker {
            // do sth
            Main {

            }
        }

    }

}
```

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Java的IO

```
public static void main(String[] args) {
    BufferedReader bufferedReader = null;
    try {
        bufferedReader = new BufferedReader(new FileReader(new File( pathname: "readme.md")));
        String line;
        while ((line = bufferedReader.readLine()) != null) {
            System.out.println(line);
        }
    } catch (IOException ignore) {

    } finally {
        try {
            if (bufferedReader != null) {
                bufferedReader.close();
            }
        } catch (IOException ignore) {

        }
    }
}
```

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快乐的IO

```
fun main() {
    // 跟Java对比的精简
    BufferedReader(FileReader(File( pathname: "readme.md"))).use { it: BufferedReader
        var line: String
        while (true) {
            line = it.readLine() ?: break
            println(line)
        }
    }

    // 更加精简
    File( pathname: "readme.md").readLines().forEach(::println)
}
```

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“真”泛型

```
startActivity<MainActivity>()
```

```
inline fun <reified T : Activity> Activity?.startActivity() {
    this?.startActivity(Intent(
        packageContext: this,
        T::class.java)
    )
}
```

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集合操作的快捷

```
// 只要有一个满足即成立
val resultAny: Boolean = numList.any { it: Int
    it / 2 == 1
}

// 所有满足才成立
val resultAll: Boolean = numList.all { it: Int
    it > 0
}
```

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优雅的“DSL”

```
verticalLayout {this: _LinearLayout
    padding = dip(value: 30)
    editText {this: EditText
        hint = "Name"
        textSize = 24f
    }
    editText {this: EditText
        hint = "Password"
        textSize = 24f
    }
    button(text: "Login") {this: Button
        textSize = 26f
    }
}
```

文章：Kotlin 一个很厉害的 DSL 写法

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Sequence

```
fun main(args: Array<String>) {
    var time = System.currentTimeMillis()
    val list = (1..65535).toList().map { it: Int
        it * 2
    }.filter { it: Int
        it % 3 == 0
    }
    list.first()
    println(System.currentTimeMillis() - time) //29ms
    time = System.currentTimeMillis()
    val sequence = (1..65535).asSequence().map { it: Int
        it * 2
    }.filter { it: Int
        it % 3 == 0
    }
    sequence.first()
    println(System.currentTimeMillis() - time)   //7ms
}
```

文章：[译]Kotlin中的龟(List)兔(Sequence)赛跑

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internal关键字

```
object Hello {
    const val WORLD = "world"

    internal fun interMethod() {
        // do something
    }
}

Hello.interMethod()
```

Cannot access 'interMethod': it is internal in 'Hello'

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Anko

```
//send toast
toast("I'm a toast.")
//start activity
startActivity<SecondActivity>( ...params:
    "id" to 5,
    "city" to "Denpasar"
)
//intent
makeCall( number: "13000000000")
sendSMS( number: "13000000000",  text: "I am Kotlin!")
browse( url: "https://smallsoho.com")
share( text: "Share Kotlin!")
email( email: "b3069741@126.com")
//debug
debug( message: "smallsoho")
//dimen
dip( value: 10)
px2dip( px: 10)
```

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Others

- 使用Ktor框架编写网络服务（使用okhttp当引擎）
- Kotlin/Native，编写原生应用
- Kotlin编写gradle插件（github：McImage插件）
- Kotlin编写.kts的脚本文件
- 空安全，真的很“安全”

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Q&A

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