

# 1、获取对象的成员变量、属性、方法、协议

## 成员变量

```
unsigned int ivarsCount ;
Ivar *ivars = class_copyIvarList([Person class], &ivarsCount);
for (int i = 0; i < ivarsCount; i++) {
    const char* ivar = ivar_getName(ivars[i]);
    NSString *name = [NSString stringWithUTF8String:ivar];
    NSLog(@"%@", name);
}
```

## 属性

```
unsigned int ivarsCount ;
objc_property_t *propertys = class_copyPropertyList([Person class], &ivarsCount);
for (int i = 0; i < ivarsCount; i++) {
    const char * propertyName = property_getName(propertys[i]);
    NSString *name = [NSString stringWithUTF8String:propertyName];
    NSLog(@"%@", name);
}
```

## 方法列表

```
unsigned int methodsCount;
Method *methods = class_copyMethodList([Person class], &methodsCount);
for (int i = 0; i < methodsCount; i++) {
    SEL methodName = method_getName(methods[i]);
    NSString *name = NSStringFromSelector(methodName);
    NSLog(@"%@", name);
}
```

## 协议列表

```
unsigned int protocolsCount;
Protocol * __unsafe_unretained *protocols = class_copyProtocolList([Person class], &protocolsCount);
for (int i = 0; i < protocolsCount; i++) {
    const char *protocolName = protocol_getName(protocols[i]);
    NSString *name = [NSString stringWithUTF8String:protocolName];
    NSLog(@"%@", name);
}
```