```
class_getSuperclass(获取父类)
                                                                                                                                                                                                                                                                      NSLog(@"lg_class_getName:%@",result);
                                                                                                                                                                                                                                                                    //参数:类Class
                                                                                                                                                                                                                                                                   //返回:BOOL类型
                                                                                                                                                                                                                               class_isMetaClass(判断类是否
                                                                                                                                                                                                                                                                   BOOL result = class_isMetaClass([ViewController class]);
                                                                                                                                                                                                                               是元类)
                                                                                                                                                                                                                                                                    NSLog(@"lg_class_isMetaClass:%d",result);
                                                                                                                                                                                                                                                                  //参数:类Class
                                                                                                                                                                                                                                                                  //返回:类的实例大小
                                                                                                                                                                                                                               class_getInstanceSize(获取
                                                                                                                                                                                                                                                                  size_t result = class_getInstanceSize([ViewController class]);
                                                                                                                                                                                                                               类的实例大小)
                                                                                                                                                                                                                                                                   NSLog(@"lg_class_getInstanceSize:%zu",result);
                                                                                                                                                                                                                                                                                                            //参数:类Class 实例变量的名称
                                                                                                                                                                                                                                                                                                            //返回:lvar指针
                                                                                                                                                                                                                                                                                                            const char *result1 = [@"_logic" UTF8String];
                                                                                                                                                                                                                                                                                                            Ivar result2 = class_getInstanceVariable([self class], result1);
                                                                                                                                                                                                                               class_getInstanceVariable(获取类中指定的实例变量的信息的数据结构的指针)
                                                                                                                                                                                                                                                                                                            NSLog(@"lg_class_getInstanceVariable:%p",result2);
                                                                                                                                                                                                                                                                                                        //参数:1.类Class 2.类变量名称
                                                                                                                                                                                                                                                                                                        //返回:指定的类变量的信息的数据结构的指针
                                                                                                                                                                                                                                                                                                        Ivar ivar = class_getClassVariable(self.class, [@"isa" UTF8String]);
                                                                                                                                                                                                                               class_getClassVariable (获取类中指定的类变量的信息的数据结构的指针)
                                                                                                                                                                                                                                                                                                        NSLog(@"lg_class_getClassVariable:%p",ivar);
                                                                                                                                                                                                                                                                    Class CreatClass0 = objc_allocateClassPair([NSObject class], "CreatClass0", 0);
                                                                                                                                                                                                                                                                    class_addIvar(CreatClass0, "_attribute0", sizeof(NSString *), log(sizeof(NSString *)), "i");
                                                                                                                                                                                                                                                                   Ivar ivar = class_getInstanceVariable(CreatClass0, "_attribute0");
                                                                                                                                                                                                                               class_addlvar(向类添加新的实
                                                                                                                                                                                                                                                                    NSLog(@"lg_class_addlvar:%@",[NSString stringWithUTF8String:ivar_getName(ivar)]);
                                                                                                                                                                                                                                                                   objc_registerClassPair(CreatClass0);
                                                                                                                                                                                                                                                                                                                                                         不支持向现有类添加实例变量
                                                                                                                                                                                                                                                                               //入参:1、类Class 2、unsigned int类型
                                                                                                                                                                                                                                                                               //返回:lvar 类型的指针数组
                                                                                                                                                                                                                                                                                unsigned int copylvarListCount = 0;
                                                                                                                                                                                                                                                                                lvar *ivars = class_copylvarList([self class], &copylvarListCount);
                                                                                                                                                                                                                                                                                for (NSInteger i = 0; i< copylvarListCount; i ++) {
                                                                                                                                                                                                                                                                                  lvar ivar = ivars[i];
                                                                                                                                                                                                                                                                                  const char *name = ivar_getName(ivar);
                                                                                                                                                                                                                                                                                  NSLog(@"lg_class_copylvarList:%s",name);
                                                                                                                                                                                                                               class_copylvarList(获取类的实例变量列表)
                                                                                                                                                                                                                                                                                free(ivars);//释放
                                                                                           //编码值 含意
                                                                                           //c 代表char类型
                                                                                                                                                                                                                                                                  //参数:类Class
                                                                                           //i 代表int类型
                                                                                                                                                                                                                                                                  //返回:返回值是指向 uint8_t 的指针
                                                                                           //s 代表short类型
                                                                                                                                                                                                                               class_getIvarLayout(获取类
                                                                                                                                                                                                                                                                  const uint8_t *result = class_getIvarLayout(self.class);
                                                                                           //I 代表long类型,在64位处理器上也是按照32位处理
                                                                                                                                                                                                                               的布局描述)
                                                                                                                                                                                                                                                                  NSLog(@"lg_class_getlvarLayout:%p",result);
                                                                                          //q 代表long long类型
                                                                                                                                                                                                                                                                   uint8_t u = 1;
                                                                                           //C 代表unsigned char类型
                                                                                                                                                                                                                                                                   const uint8_t *u8 = &u;
                                                                                           //I 代表unsigned int类型
                                                                                                                                                                                                                               class_setIvarLayout(设置类的
                                                                                                                                                                                                                                                                   //参数:1.类Class 2.const uint8_t *
                                                                                           //S 代表unsigned short类型
                                                                                                                                                                                                                               实例变量的修饰符)
                                                                                                                                                                                                                                                                   class_setIvarLayout(self.class, u8);
                                                                                          //L 代表unsigned long类型
                                                                                                                                                                                                                                                                    //参数:类Class
                                                                                           //Q 代表unsigned long long类型
                                                                                                                                                                                                                                                                    //返回:返回值是指向 uint8_t 的指针
                                                                                           //f 代表float类型
                                                                                                                                                                                                                               class_getWeakIvarLayout (获取
                                                                                                                                                                                                                                                                    const uint8_t *result = class_getWeakIvarLayout(self.class);
                                                                                           //d 代表double类型
                                                                                                                                                                                                                               类的weak修饰的实例变量)
                                                                                                                                                                                                                                                                    NSLog(@"lg_class_getIvarLayout:%p",result);
                                                                                           //B 代表C++中的bool或者C99中的_Bool
                                                                                                                                                                                                                                                                    uint8_t u = 1;
                                                                                           //v 代表void类型
                                                                                                                                                                                                                                                                    const uint8_t *u8 = &u;
                                                                                           //* 代表char *类型
                                                                                                                                                                                                                               class_setWeakIvarLayout(设置
                                                                                                                                                                                                                                                                    //参数:1.类Class 2.const uint8_t *
                                                                                          //@ 代表对象类型
                                                                                                                                                                                                                               类的实例变量的修饰符为weak)
                                                                                                                                                                                                                                                                    class_setWeakIvarLayout(self.class, u8);
                                                                                           //# 代表类对象 (Class)
                                                                                           //: 代表方法selector (SEL)
                                                                                                                                                                                                                                                                         //参数:1.类Class 2.属性名
                                                                                           //[array type] 代表array
                                                                                                                                                                                                                                                                         //返回:属性objc_property_t
                                                                                           //{name=type...} 代表结构体
                                                                                                                                                                                                                                                                         objc_property_t result = class_getProperty(self.class,
                                                                                                                                                                                                                                                                       [@"logic" UTF8String]);
                                                                                           //(name=type...) 代表union
                                                                                                                                                                                                                                class_getProperty(获取指定的属性)
                                                                                                                                                                                                                                                                         NSLog(@"lg_class_getProperty:%p",result);
                                                                                           //bnum A bit field of num bits
                                                                                           //^type A pointer to type
                                                                                                                                                                                                                                                                    //参数:1.类Class 2.unsigned int类型
                                                                                           //? An unknown type (among other things, this code is used for function
                                                                                                                                                                                                                                                                    //返回:属性列表
                                                                                                                                                                   编码值
                                                                                                                                                                                                                                                                    unsigned int copyPropertyListCount = 0;
                                                                                                       ARC模式不可用
                                                                                                                           object_copy
                                                                                                                                                                                                                                                                    objc_property_t *propertys = class_copyPropertyList([self class],
                                                                                                                                                                                                                                                                  &copyPropertyListCount);
                                                                                                    ARC模式不可用
                                                                                                                        object_dispose
                                                                                                                                                                                                                                                                    for (NSInteger i = 0; i < copyPropertyListCount; i++) {
                                                                                                                                                                                                                                                                      objc_property_t property = propertys[i];
                                                                                           ARC模式不可用
                                                                                                               object_setInstanceVariable
                                                                                                                                                                                                                                                                      const char *name = property_getName(property);
                                                                                                                                                                                                                                                                      NSLog(@"lg_class_copyPropertyList:%s",name);
                                                                                           ARC模式不可用
                                                                                                               object_getInstanceVariable
                                                                                                                                                                                                                               class_copyPropertyList(获取整
                                                                                                                                                                                                                                个属性列表)
                                                                                                                                                                                                                                                                    free(propertys);//释放
                                                                                             ARC模式不可用
                                                                                                                  object_getIndexedIvars
                                                                                                                                                                                                                                                                   //参数:1.类Class 2.方法名 3.imp,函数实现 4.方法参数类型描述
                                                        Ivar ivar = class_getInstanceVariable(self.class,
                                                      [@"_logic" UTF8String]);
                                                                                                                                                                                                                                                                   //返回值:BOOL
                                                        //参数:1.对象obj 2.实例变量ivar
                                                                                                                                                                                                                                                                   BOOL result = class_addMethod(self.class,
                                                                                                                                                                                                                                                                 NSSelectorFromString(@"lgMethod"), [self
                                                                                                                                                                                                                               class_addMethod(给类添加方
                                                                                                           object_getIvar(获取对象中实例
                                                                                                                                                                                                                                                                 methodForSelector:@selector(lg_method)], "@@:");
                                                        NSString *result = object_getIvar(self, ivar);
                                                                                                                                                                                                                                                                   NSLog(@"lg_addMethod:%d",result);
                                                                                                           变量的值)
                                                        NSLog(@"lg_object_getlvar:%@",result);
                                                                                                                                                                                                                                                                    //参数:1.类Class 2.方法名SEL
                                         Ivar ivar = class_getInstanceVariable(self.class, [@"_logic"
                                                                                                                                             Working with Instances (使用实
                                       UTF8String]);
                                                                                                                                                                                                                                                                    //返回:method结构体指针
                                                                                                           object_setIvar(设置对象中实例
                                         //参数:1.对象obj 2.实例变量ivar 3.实例变量的值id
                                                                                                                                                                                                                                                                    Method result = class_getInstanceMethod(self.class,
                                                                                                                                                                                                                               class_getInstanceMethod (获取
                                                                                                           变量的值)
                                        object_setIvar(self, ivar, @"123456");
                                                                                                                                                                                                                                                                  @selector(lg_method));
                                                                                                                                                                                                                                类的实例方法)
                                                                                                                                                                                                                                                                    NSLog(@"lg_class_getInstanceMethod:%p",result);
                                                                                                                                                                                                 Working with Classes (操
                                                      //参数:对象obj
                                                                                                                                                                                                                                                                         //入参:1.类Class 2.方法名SEL
                                                      //返回:对象的类名
                                                                                                                                                                                                                                                                         //返回:method结构体指针
                                                      const char*result = object_getClassName(self);
                                                                                                           object_getClassName(获取对
                                                      NSLog(@"lg_object_getClassName:%@",[NSString
                                                                                                                                                                                                                                                                         Method result = class_getClassMethod(self.class,
                                                                                                            象的类名)
                                                                                                                                                                                                                                                                       @selector(lgClassMethod));
                                                    stringWithUTF8String:result]);
                                                                                                                                                                                                                               class_getClassMethod(获取类方法)
                                                                                                                                                                                                                                                                         NSLog(@"lg_class_getClassMethod:%p",result);
                                              //参数:对象obj
                                                                                                                                                                                                                                                                   //参数:1、类Class 2、unsigned int 类型
                                              //返回:类Class
                                                                                                           object_getClass(获取对象的类
                                                                                                                                                                                                                                                                   //返回:整个类的实例方法
                                              Class result = object_getClass(self);
                                                                                                           对象)
                                              NSLog(@"lg_object_getClass:%@",result);
                                                                                                                                                                                                                                                                   unsigned int copycopyMethodListCount = 0;
                                                                                                                                                                                                                                                                   Method *methods = class_copyMethodList([self class], &copycopyMethodListCount);
                                             //参数:1.对象obj 2.类Class
                                                                                                                                                                                                                                                                   for (NSInteger i = 0; i < copycopyMethodListCount; i++) {
                                             //返回:类Class
                                                                                                                                                                                                                                                                     Method method = methods[i];
                                                                                                            object_setClass(设置对象的
                                            Class result = object_setClass(self, [UIViewController class]);
                                                                                                                                                                                                                                                                     SEL name = method_getName(method);
                                            NSLog(@"lg_object_setClass:%@",result);
                                                                                                                                                                                                                                                                     NSLog(@"lg_class_copyMethodList:%@",NSStringFromSelector(name));
                                                                                                                                                                                                                               class_copyMethodList(获取整
                                                             //参数:1.传NUII获取当前注册的所有类 2.传0
                                                                                                                                                                                                                                个类的实例方法)
                                                                                                                                                                                                                                                                   free(methods);//释放
                                                             //返回:所有注册类的总数
                                                                                                            objc_getClassList(获取已注册
                                                                                                                                                                                                                                                                  [self lg_method1];
                                                            int result = objc_getClassList(NULL, 0);
                                                                                                            的类的数量)
                                                                                                                                                                                                                                                                  //参数:1.类Class 2.方法名SEL 3.方法的实现IMP 4.方法参数描述
                                                            NSLog(@"lg_objc_getClassList:%d",result);
                                                                                                                                                                                                                                                                  //返回:BOOL
                                                   unsigned int outCount;
                                                                                                                                                                                                                                                                  BOOL result = class_replaceMethod([self class], @selector(lg_method1), [self
                                                    //参数:整数指针
                                                                                                                                                                                                                                                                 methodForSelector:@selector(lg_method2)], NULL);
                                                                                                                                                                                                                               class_replaceMethod(交换方
                                                   //返回:已注册的类的指针列表
                                                                                                                                                                                                                                                                  NSLog(@"lg_class_replaceMethod:%d",result);
                                                   Class *result = objc_copyClassList(&outCount);
                                                                                                                                                                                                                                                                  [self lg_method1];
                                                   for (int i = 0; i < outCount; i++) {
                                                                                                                                                                                                                                                                    //参数:1.类Class 2.方法名SEL
                                                     NSLog(@"lg_objc_copyClassList:%s",
                                                                                                                                                                                                                                                                    //返回:方法实现IMP
                                                  class_getName(result[i]));
                                                                                                            objc_copyClassList(获取所有
                                                                                                                                                                                                                                                                    IMP result = class_getMethodImplementation([ViewController class],
                                                                                                            已注册的类)
                                                                                                                                                                                                                               class_getMethodImplementation
                                                   free(result);
                                                                                                                                                                                                                                                                  @selector(lg_method));
                                                                                                                                                                                                                                (获取方法实现)
                                                                                                                                                                                                                                                                    result();
                                                            //参数:类的名称
                                                            //返回:类Class
                                                                                                                                                                                                                                                                  not available in arm64, 跟
                                                            Class result =
                                                                                                                                                                                                                                                                  class_getMethodImplementatio
                                                                                                                                                                                                                               class_getMethodImplementation
                                                          objc_lookUpClass([@"ViewController"
                                                                                                                                                                                                                                                                  n方法一样的
                                                                                                           objc_lookUpClass(获取指定的
                                                          UTF8String]);
                                                                                                                                             Obtaining Class Definitions (获
                                                                                                            类定义)
                                                           NSLog(@"lg_objc_lookUpClass:%@",result);
                                                                                                                                                                                                                                                                                  //参数:1.类Class 2.方法名SEL
                                                                                                                                             取类定义)
                                                                                                                                                                                                                                                                                  //返回:BOOL
                                                          //参数:类的名称
                                                                                                                                                                                                                                                                                  BOOL result = class_respondsToSelector(self.class,
                                                         //返回:类Class
                                                                                                                                                                                                                                                                                @selector(viewDidLoad));
                                                         Class result = objc_getClass([@"ViewController"
                                                                                                                                                                                                                               class_respondsToSelector(判断是否响应方法)
                                                                                                                                                                                                                                                                                  NSLog(@"lg_class_respondsToSelector:%d",result);
                                                                                                           objc_getClass(获取指定的类定
                                                       UTF8String]);
                                                         NSLog(@"lg_ objc_getClass:%@",result);
                                                                                                                                                                                                                                                                   //参数:1.类Class 2.协议
                                                                                                                                                                                                                                                                    //返回:BOOL
                                                    //参数:类的名称
                                                                                                                                                                                                                                                                   BOOL result = class_addProtocol([self class],
                                                    //返回:类Class
                                                                                                                                                                                                                               class_addProtocol(向类添加协
                                                                                                                                                                                                                                                                  NSProtocolFromString(@"UITableViewDelegate"));
                                                    Class result =
                                                                                                                                                                                                                                                                    NSLog(@"lg_class_addProtocol:%d",result);
                                                                                                           objc_getRequiredClass(获取指
                                                  objc_getRequiredClass([@"ViewController" UTF8String]);
                                                                                                           定的类定义)
                                                    NSLog(@"lg_objc_getRequiredClass:%@",result);
                                                                                                                                                                                                                                                                    objc_property_attribute_t type = { "T", "@\"NSString\"" }
                                                                                                                                                                                                                                                                    objc_property_attribute_t ownership = { "C", "" }; // C = copy
                                                              //参数:类的名称
                                                                                                                                                                                                                                                                    objc_property_attribute_t backingivar = { "V", "_attribute0" };
                                                              //返回:类Class
                                                                                                                                                                                                                                                                    objc_property_attribute_t attrs[] = { type, ownership, backingivar };
                                                             id result =
                                                                                                                                                                                                                                                                    //参数:1.类Class 2.属性数组 3.属性个数
                                                            objc_getMetaClass([@"ViewController"
                                                                                                                                                                                                                                                                    //返回值:BOOL
                                                                                                            objc_getMetaClass(获取指定
                                                           UTF8String]);
                                                                                                                                                                                                                                                                    BOOL suc0 = class_addProperty(self.class, "_attribute0", attrs, 3);
                                                                                                            的类的元类定义)
                                                             NSLog(@"objc_getMetaClass:%@",result);
                                                                                                                                                                                                                                                                    SEL getter = NSSelectorFromString(@"attribute0");
                                                  Ivar ivar = class_getInstanceVariable(self.class, [@"_logic"
                                                                                                                                                                                                                                                                    SEL setter = NSSelectorFromString(@"setAttribute0:");
                                               UTF8String]);
                                                                                                                                                                                                                                                                    BOOL suc1 = class_addMethod(self.class, getter, (IMP)attribute0Getter, "@@:");
                                                  //参数:lvar
                                                                                                                                                                                                                                                                    BOOL suc2 = class_addMethod(self.class, setter, (IMP)attribute0Setter, "v@:@");
                                                  //返回:实例变量的名称
                                                                                                                                                                                                                               class_addProperty(为类添加属
                                                                                                                                                                                                                                                                    NSLog(@"lg_class_addProperty:class_addProperty = %d,class_addMethod_Getter =
                                                  const char *result = ivar_getName(ivar);
                                                                                                                                                                                                                                                                  %d,class_addMethod_Setter = %d",suc0,suc1,suc2);
                                                                                                           ivar_getName(获取实例变量名
                                                  NSLog(@"lg_ivar_getName:%@",[NSString
                                                                                                                                                                                                                                                                   objc_property_attribute_t type = { "T", "@\"NSString\"" };
                                               stringWithUTF8String:result]);
                                                                                                                                                                                                                                                                   objc_property_attribute_t ownership = { "C", "" }; // C = copy
                                                       Ivar ivar = class_getInstanceVariable(self.class,
                                                                                                                                                                                                                                                                   objc_property_attribute_t backingivar = { "V", "_attribute0" };
                                                     [@"_logic" UTF8String]);
                                                                                                                                                                                                                                                                   objc_property_attribute_t attrs[] = { type, ownership, backingivar };
                                                                                                                                                                                                                               class_replaceProperty(替换类
                                                                                                                                                                                                                                                                   //参数:1.类Class 2.属性名称 3.属性的相关属性 4.属性的相关属性的个数
                                                       //参数:lvar
                                                                                                                                                                                                                               的属性)
                                                       //返回:实例变量的类型
                                                                                                                                                                                                                                                                   class_replaceProperty(self.class, [@"logic" UTF8String], attrs, 3);
                                                                                                                                             Working with Instance Variables
                                                       const char *result = ivar_getTypeEncoding(ivar);
                                                                                                                                                                                                                                                                   //参数:1.类Class 2.协议
                                                                                                                                              (使用实例变量)
                                                       NSLog(@"lg_ivar_getTypeEncoding:%@",[NSString
                                                                                                           ivar_getTypeEncoding(获取实
                                                                                                                                                                                                                                                                   //返回:BOOL
                                                                                                            例变量的类型)
                                                     stringWithUTF8String:result]);
                                                                                                                                                                                                                                                                   BOOL result = class_conformsToProtocol(self.class,
                                                                                                                                                                                                                               class_conformsToProtocol (判
                                                                                                                                                                                                                                                                 NSProtocolFromString(@"UITableViewDelegate"));
                               Ivar ivar = class_getInstanceVariable(self.class, [@"_logic" UTF8String]);
                                                                                                                                                                                                                               断是否遵循某个协议)
                                                                                                                                                                                                                                                                   NSLog(@"lg_class_conformsToProtocol:%d",result);
                               //参数:lvar
                               //返回:实例变量的类型
                                                                                                                                                                                                                                                                           //入参:1、类Class 2、unsigned int 类型
                               ptrdiff_t result = ivar_getOffset(ivar);
                                                                                                                                                                                                                                                                           //返回:整个类的遵循的协议
                                                                                                   ivar_getOffset(获取实例变量的偏移量)
                              NSLog(@"lg_ivar_getOffset:%td",result);
                                                                                                                                                                                                                                                                           unsigned int copyProtocolListCount = 0;
                                                                                                                                                                                                                                                                           Protocol * __unsafe_unretained *protocals = class_copyProtocolList([self class], &copyProtocolListCount);
                                                                                                                                                                                                                                                                           for (NSInteger i = 0; i < copyProtocolListCount; i++) {
                 policy:关联策略。有五种关联策略。
                                                                                                                                                                                                                                                                             Protocol * protocal = protocals[i];
                 OBJC_ASSOCIATION_ASSIGN 等价于 @property(assign)。
                                                                                                                                                                                                                                                                             const char *name = protocol_getName(protocal);
                 OBJC_ASSOCIATION_RETAIN_NONATOMIC等价于 @property(strong, nonatomic)。
                                                                                                                                                                                                                                                                              NSLog(@"lg_class_copyProtocolList:%s",name);
                 OBJC_ASSOCIATION_COPY_NONATOMIC等价于@property(copy, nonatomic)。
                 OBJC_ASSOCIATION_RETAIN等价于@property(strong,atomic)。
                                                                                                                                                                                                                              class_copyProtocolList(获取协议列表)
                                                                                                                                                                                                                                                                           free(protocals);//释放
                 OBJC_ASSOCIATION_COPY等价于@property(copy, atomic)。
                                                                                                                                                                                                                                                                   //参数:类Class
                                                                                                                                                                                                                                                                   //返回:版本号
                //参数:1.要关联的对象 2.全局唯一KEY 3.关联的obj 4.关联策略policy
                                                                                                                                                                                                                               class_getVersion (获取类的版
                                                                                                                                                                                                                                                                   int result = class_getVersion(self.class);
                                                                                                            objc_setAssociatedObject (设
                objc_setAssociatedObject(self, [@"LGKey" UTF8String], @"123456",
                                                                                                                                                                                                                                                                   NSLog(@"lg_class_getVersion:%d",result);
              OBJC_ASSOCIATION_COPY_NONATOMIC);
                                                                                                            置关联)
                                                                                                                                                                                                                               class_setVersion(设置类的版
                                                                                                                                                                                                                                                                   //参数:1.类Class 2.int
                                                     //参数:1.关联的对象 2.key
                                                                                                                                                                                                                                                                   class_setVersion(self.class, 100);
                                                     //返回:关联的值
                                                                                                                                            Associative References (关联引
                                                     id result = objc_getAssociatedObject(self, [@"LGKey"
                                                                                                                                                                                                                                                        不要自己调用这个函数
                                                                                                                                                                                                                               objc_getFutureClass
                                                                                                           objc_getAssociatedObject (获
                                                                                                            取关联的值)
                                                     NSLog(@"lg_objc_getAssociatedObject:%@",result);
                                                                                                                                                                                                                                                        不要自己调用这个函数
                                                                                                                                                                                                                               objc_setFutureClass
                                                       //参数:关联的对象
                                                                                                           objc_removeAssociatedObjects
                                                                                                                                                                                                                                                                   //参数:1.新添加类的父类 2.新类的名称 3.填0
                                                                                                            (删除关联)
                                                       objc_removeAssociatedObjects(self);
                                                                                                                                                                                                                                                                   //返回:新类
                                                                                                                                                                                                                                                                  Class result = objc_allocateClassPair([NSObject
                                                                                           向类的实例发送带有简单返回值
                                                                                                                                                                                                                              objc_allocateClassPair(添加一
                                                                                                                                                                                                                                                                 class], [@"NewClass" UTF8String], 0);
                                                                                                                            objc_msgSend
                                                                                                                                                                                                                                                                   NSLog(@"lg_objc_allocateClassPair:%p",result);
                                                                                      将带有浮点返回值的消息发送到
                                                                                                                                                                                                                                                                        //参数:类Class
                                                                                      类的实例
                                                                                                                       objc_msgSend_fpret
                                                                                                                                                                                                                              objc_disposeClassPair(销毁一个类)
                                                                                                                                                                                                                                                                        objc_disposeClassPair(result);
                                                                                      将带有数据结构返回值的消息发
                                                                                                                                                Sending Messages(发送消
                                                                                                                                                                                                                                                                  Class result = objc_allocateClassPair([NSObject class],
                                                                                                                                                                                                 Adding Classes (添加类)
                                                                                      送到类的实例
                                                                                                                                                                                                                                                                 [@"NewClass" UTF8String], 0);
                                                                                                                        objc_msgSend_stret
                                                                                                                                                                                                                              objc_registerClassPair(注册使
                                                                                                                                                                                                                                                                  //参数:类Class
                                                                                      将带有简单返回值的消息发送到
                                                                                                                                                                                                                              用类)
                                                                                                                                                                                                                                                                  objc_registerClassPair(result);
                                                                                      类实例的超类
                                                                                                                       objc_msgSendSuper
                                                                                                                                                                                                                                                      不要自己调用这个函数
                                                                                                                                                                                                                              objc_duplicateClass
                                                                                  将带有数据结构返回值的消息发
                                                                                                                                                                                                                                                                    //参数:1.类Class 2.额外分配的字节数
                                                                                 送到类实例的超类
                                                                                                                   objc_msgSendSuper_stret
                                                                                                                                                                                Runtime
                                                                                                                                                                                                                                                                    //返回:类的实例
                                                                                                                         method_invoke
                                                                                                                                                                                                                                                                    NSObject *result = class_createInstance([NSObject
                                                                                                                                                                                                                                 class_createInstance(类实例
                                                                                                                                                                                                                                                                  class], 0);
                                                                                       调用返回值为结构体的方法
                                                                                                                    method invoke stret
                                                                                                                                                                                                                                                                    NSLog(@"lg_class_createInstance:%@",result);
                                                                                                                                                                                                 Instantiating Classes (实例化
                                                 Method method = class_getInstanceMethod(self.class,
                                                                                                                                                                                                                                                           ARC模式下不可用
                                                                                                                                                                                                                                 objc_constructInstance
                                               @selector(lg_method));
                                                 //参数:Mothod
                                                                                                                                                                                                                                                           ARC模式下不可用
                                                                                                                                                                                                                                 objc_destructInstance
                                                 //返回:SEL指针
                                                                                                            method_getName(获取方法的
                                                                                                                                                                                                                                                                     unsigned int a = 0;
                                                 SEL result = method_getName(method);
                                                                                                                                                                                                                                                                     //参数:unsigned int *
                                                 NSLog(@"lg_method_getName:%p",result);
                                                                                                                                                                                                                                                                     //返回:C字符串数组
                                               Method method = class_getInstanceMethod(self.class,
                                                                                                                                                                                                                                                                     const char **result = objc_copyImageNames(&a);
                                              @selector(lg_method));
                                                                                                                                                                                                                                                                     for (int i = 0; i < a; i ++) {
                                               //参数:Mothod
                                                                                                                                                                                                                                                                       const char *c = result[i];
                                               //返回:IMP指针
                                                                                                                                                                                                                                                                       NSLog(@"lg_objc_copyImageNames:%@",[NSString
                                                                                                            method_getImplementation (获
                                                                                                                                                                                                                                objc_copyImageNames(获取所
                                                                                                                                                                                                                                                                   stringWithUTF8String:c]);
                                               IMP result = method_getImplementation(method);
                                                                                                            取方法的实现)
                                                                                                                                                                                                                                 有objc的框架和动态库)
                                              NSLog(@"lg_method_getImplementation:%p",result);
                                              Method method = class_getInstanceMethod(self.class,
                                                                                                                                                                                                                                                                                       //参数:类Class
                                             @selector(lg_method));
                                                                                                                                                                                                                                                                                      //返回:源自的动态库的名称
                                              //参数:Method
                                                                                                                                                                                                                                                                                      const char *result = class_getImageName(self.class);
                                              //返回:描述方法的参数和返回值类型的字符串
                                                                                                                                                                                                                                class_getImageName(获取类源自的动态库的名称)
                                                                                                                                                                                                                                                                                       NSLog(@"lg_class_getImageName:%@",[NSString stringWithUTF8String:result]);
                                                                                                            method_getTypeEncoding (获
                                              const char *result = method_getTypeEncoding(method);
                                                                                                            取描述方法的参数和返回值类型
                                                                                                                                                                                                                                                                     unsigned int outCount = 0;
                                              NSLog(@"lg_method_getTypeEncoding:%@",[NSString
                                                                                                                                                                                                 Working with Libraries (使用
                                                                                                                                                                                                                                                                     Dl_info info;
                                                                                                            的字符串)
                                            stringWithUTF8String:result]);
                                                                                                                                                                                                                                                                     dladdr(&_mh_execute_header, &info);
                                               Method method = class_getInstanceMethod(self.class,
                                                                                                                                                                                                                                                                     //参数:1.库或者框架 2.unsigned int *
                                              @selector(lg_method));
                                                                                                                                                                                                                                                                     //返回:指定库或框架中的所有类的名称
                                               //参数:Method
                                                                                                                                                                                                                                                                     const char **result = objc_copyClassNamesForImage(info.dli_fname, &outCount);
                                                //返回:方法的返回值类型
                                                                                                                                                                                                                                                                     for (int i = 0; i < outCount; i ++) {
                                                                                                                                                                                                                                                                       const char *c = result[i];
                                               char *result = method_copyReturnType(method);
                                                                                                                                                                                                                                objc_copyClassNamesForImage
                                                                                                            method_copyReturnType (获取
                                                                                                                                                                                                                                                                       NSLog(@"lg_objc_copyClassNamesForImage:%@",[NSString
                                               NSLog(@"lg_method_copyReturnType:%@",[NSString
                                                                                                                                                                                                                                 (获取指定库或框架中的所有类
                                                                                                            方法的返回值类型)
                                                                                                                                                                                                                                                                   stringWithUTF8String:c]);
                                             stringWithUTF8String:result]);
                                                                                                                                                                                                                                的名称)
                                                     Method method = class_getInstanceMethod(self.class,
                                                    @selector(lg_method));
                                                                                                                                                                                                                                                                     SEL sel = NSSelectorFromString(@"lg_method");
                                                                                                                                                                                                                                                                     //参数:SEL
                                                     //参数:1.Method 2.unsigned int参数索引
                                                                                                                                                                                                                                                                     //返回:方法的名称
                                                     //返回:参数类型
                                                     char *result = method_copyArgumentType(method, 0);
                                                                                                                                                                                                                                                                    const char *result = sel_getName(sel);
                                                                                                                                                                                                                                   sel_getName(获取方法的名
                                                     NSLog(@"lg_method_copyReturnType:%@",[NSString
                                                                                                                                                                                                                                                                     NSLog(@"lg_sel_getName:%@",[NSString
                                                                                                              method_copyArgumentType
                                                    stringWithUTF8String:result]);
                                                                                                                                                                                                                                                                   stringWithUTF8String:result]);
                                                                                                               (获取方法的单个参数类型)
                                                     free(result);
                                                                                                                                                                                                                                                                      //参数:const char *
                                                                                                                                              Working with Methods(使用方
                                                  Method method = class_getInstanceMethod(self.class,
                                                 @selector(lg_method));
                                                                                                                                                                                                                                                                      SEL result = sel_registerName([@"lglglg" UTF8String]);
                                                  //参数:1.Method 2.char数组 3.char数组的长度
                                                                                                                                                                                                                                   sel_registerName (注册方法)
                                                                                                                                                                                                                                                                       NSLog(@"lg_sel_registerName:%p",result);
                                                  char result[10];
                                                                                                                                                                                                                                                                 //参数:const char *
                                                  method_getReturnType(method,result,sizeof(result));
                                                                                                                                                                                                 Working with Selectors(使用选
                                                                                                           method_getReturnType(获取方
                                                  NSLog(@"lg_method_getReturnType:%@",[NSString
                                                                                                                                                                                                                                                                 //返回:SEL
                                                                                                           法的返回值类型)
                                                 stringWithUTF8String:result]);
                                                                                                                                                                                                                                                                 SEL result = sel_getUid([@"lglglg" UTF8String]);
                                                                                                                                                                                                                                   sel_getUid(注册方法)
                                                                                                                                                                                                                                                                 NSLog(@"sel_getUid:%p",result);
                                  Method method = class_getInstanceMethod(self.class, @selector(lg_method));
                                  //参数:Method
                                                                                                                                                                                                                                                                       SEL sel1 = NSSelectorFromString(@"lg_method1");
                                  //返回:参数的个数
                                                                                                                                                                                                                                                                       SEL sel2 = NSSelectorFromString(@"lg_method2");
                                                                                                            method_getNumberOfArgument
                                                                                                                                                                                                                                                                       //参数:SEL
                                  unsigned int result = method_getNumberOfArguments(method);
                                                                                                           s (获取方法参数的数量)
                                  NSLog(@"lg_method_getNumberOfArguments:%d",result);
                                                                                                                                                                                                                                                                       //返回:BOOL
                                                                                                                                                                                                                                  sel_isEqual(判断俩个选择器是
                                                                                                                                                                                                                                                                       BOOL result = sel_isEqual(sel1, sel2);
                                    Method method = class_getInstanceMethod(self.class,
                                                                                                                                                                                                                                                                       NSLog(@"lg_sel_isEqual:%d",result);
                                  @selector(lg_method));
                                   char result[10];
                                                                                                                                                                                                                                                                        //参数:协议名称
                                    //参数:1.Method 2.参数索引 3.char数组 4.char数组的长度
                                                                                                                                                                                                                                                                       //返回:协议
                                    method_getArgumentType(method, 0, result, sizeof(result));
                                                                                                                                                                                                                                                                       Protocol *result = objc_getProtocol([@"UITableViewDelegate"
                                                                                                            method_getArgumentType(获
                                    NSLog(@"lg_method_getArgumentType:%@",[NSString
                                                                                                                                                                                                                                   objc_getProtocol(获取指定的协
                                                                                                                                                                                                                                                                      UTF8String]);
                                                                                                            取单个参数的类型)
                                  stringWithUTF8String:result]);
                                                                                                                                                                                                                                                                       NSLog(@"lg_objc_getProtocol:%@",result);
                               Method method = class_getInstanceMethod(self.class, @selector(lg_method));
                                                                                                                                                                                                                                                                      unsigned int count = 0;
                               //参数:Method
                                                                                                                                                                                                                                                                      //参数:unsigned int *
                               //返回:方法的结构体
                                                                                                                                                                                                                                                                      //返回:所有的协议列表
                                                                                                            method_getDescription(获取方
                               struct objc_method_description *result = method_getDescription(method);
                                                                                                                                                                                                                                                                      Protocol __unsafe_unretained **result =
                                                                                                            法的结构体)
                              NSLog(@"lg_method_getDescription:%p",result);
                                                                                                                                                                                                                                                                    objc_copyProtocolList(&count);
                                                                                                                                                                                                                                                                      for (int i = 0; i < count; i ++) {
                             Method method = class_getInstanceMethod(self.class, @selector(lg_method));
                                                                                                                                                                                                                                                                        Protocol *pro = result[i];
                             IMP imp = class_getMethodImplementation(self.class, @selector(lg_method1));
                                                                                                                                                                                                                                  objc_copyProtocolList(获取所
                                                                                                                                                                                                                                                                         NSLog(@"lg_objc_copyProtocolList:%@",pro);
                             //参数:1.Method 2.IMP
                                                                                                                                                                                                                                   有的协议列表)
                             //返回:方法的先前实现
                             IMP result = method_setImplementation(method, imp);
                                                                                                                                                                                                                                                                      //参数:协议的名称
                             NSLog(@"lg_method_setImplementation:%p",result);
                                                                                                                                                                                                                                                                      //返回:协议
                                                                                                            method_setImplementation (设
                                                                                                                                                                                                                                                                      Protocol *result = objc_allocateProtocol([@"LGProtocol"
                                                                                                            置方法的实现)
                           [self lg_method];
                                                                                                                                                                                                                                  objc_allocateProtocol(创建协
                                                                                                                                                                                                                                                                    UTF8String]);
                                                                                                                                                                                                                                                                      NSLog(@"lg_objc_allocateProtocol:%@",result);
                                     Method method1 = class_getInstanceMethod(self.class,
                                   @selector(lg_method1));
                                                                                                                                                                                                                                                                      Protocol *result = objc_allocateProtocol([@"LGProtocol"
                                     Method method2 = class_getInstanceMethod(self.class,
                                                                                                                                                                                                                                                                   UTF8String]);
                                   @selector(lg_method2));
                                                                                                                                                                                                                                   objc_registerProtocol(注册协
                                                                                                                                                                                                                                                                      //参数:协议Protocol
                                     //参数:Method
                                                                                                                                                                                                                                                                      objc_registerProtocol(result);
                                     method_exchangeImplementations(method1, method2);
                                                                                                            method_exchangeImplementati
                                                                                                                                                                                                                                                                                          Protocol *pro = objc_getProtocol([@"UITableViewDelegate" UTF8String]);
                                     [self lg_method1];
                                                                                                            ons(交换俩个方法的实现)
                                    [self lg_method2];
                                                                                                                                                                                                                                                                                          //参数:1.协议Protocol 2.SEL 3.方法名称 4.是否为协议必须方法 5.是否为实例方法
                                                                                                                                                                                                                                   protocol_addMethodDescription(向协议添加新方法)
                                                                                                                                                                                                                                                                                          protocol_addMethodDescription(pro, NSSelectorFromString(@"lg_method"), [@"lgProtocolMethod" UTF8String], YES, YES);
                                 objc_property_t t = class_getProperty(self.class, [@"logic" UTF8String]);
                                 //参数:objc_property_t
                                                                                                                                                                                                                                                                        Protocol *pro1 = objc_getProtocol([@"UITableViewDelegate" UTF8String]);
                                 //返回:属性的名称
                                                                                                                                                                                                                                                                       Protocol *pro2 = objc_allocateProtocol([@"LGProtocol" UTF8String]);
                                                                                                            property_getName(获取属性的
                                                                                                                                                                                                                                   protocol_addProtocol(向协议中
                                                                                                                                                                                                                                                                       //参数:1.要添加到的协议 2.要添加的协议
                                 const char *result = property_getName(t);
                                                                                                            名称)
                                                                                                                                                                                                                                   添加协议)
                                 NSLog(@"lg_property_getName:%@",[NSString stringWithUTF8String:result]);
                                                                                                                                                                                                                                                                       protocol_addProtocol(pro1, pro2);
                                                                                                                                                                                                                                                                      Protocol *pro = objc_allocateProtocol([@"LGProtocol" UTF8String]);
                           objc_property_t t = class_getProperty(self.class, [@"logic" UTF8String]);
                                                                                                                                                                                                                                                                      objc_property_attribute_t type = { "T", "@\"NSString\"" };
                          //参数:objc_property_t
                                                                                                                                                                                                                                                                      objc_property_attribute_t ownership = { "C", "" }; // C = copy
                          //返回:属性的属性
                                                                                                                                                                                                                                                                      objc_property_attribute_t backingivar = { "V", "_logic" };
                                                                                                            property_getAttributes(获取属
                          const char *result = property_getAttributes(t);
                                                                                                                                                                                                                                                                      objc_property_attribute_t attrs[] = { type, ownership, backingivar };
                                                                                                            性的属性)
                          NSLog(@"lg_property_getAttributes:%@",[NSString stringWithUTF8String:result]);
                                                                                                                                                                                                                                  protocol_addProperty(向协议
                                                                                                                                                                                                                                                                      //参数:1.协议Protocol 2.属性的名称 3.属性的属性 4.属性的属性的个数 5.是否为协议的必须方法 6.填YES
                     objc_property_t t = class_getProperty(self.class, [@"logic" UTF8String]);
                                                                                                                                                                                                                                   添加属性)
                                                                                                                                                                                                                                                                      protocol_addProperty(pro, [@"logic" UTF8String], attrs, 3, YES, YES);
                     //参数:1.objc_property_t 2.属性的属性
                                                                                                                                                                                                                                                                       Protocol *pro = objc_getProtocol([@"UITableViewDelegate" UTF8String]);
                                                                                                                                             Working with Properties (使用
                     //返回:属性的属性的值
                                                                                                                                                                                                                                                                       //参数:协议Protocol
                                                                                                               property_copyAttributeValue
                                                                                                                                              属性)
                     char *result = property_copyAttributeValue(t, [@"T" UTF8String]);
                                                                                                                                                                                                                                                                       //返回:协议名称
                                                                                                               (获取属性的指定属性的值)
                    NSLog(@"lg_property_copyAttributeValue:%@",[NSString stringWithUTF8String:result]);
                                                                                                                                                                                                                                   protocol_getName(获取协议的
                                                                                                                                                                                                                                                                       const char *result = protocol_getName(pro);
                  objc_property_t t = class_getProperty(self.class, [@"logic" UTF8String]);
                                                                                                                                                                                                                                                                       NSLog(@"lg_protocol_getName:%@",[NSString stringWithUTF8String:result]);
                  unsigned int count = 0;
                                                                                                                                                                                                                                                                       Protocol *pro1 = objc_getProtocol([@"UITableViewDelegate" UTF8String]);
                  //参数:1.objc_property_t 2.unsigned int *
                                                                                                                                                                                                                                                                       Protocol *pro2 = objc_getProtocol([@"UITableViewDataSource" UTF8String]);
                  //返回:属性的属性列表
                                                                                                                                                                                                                                                                       //参数:Protocol
                  objc_property_attribute_t *result = property_copyAttributeList(t, &count);
                                                                                                                                                                                                 Working with Protocols(使用协
                                                                                                                                                                                                                                                                       //返回:BOOL
                  for (int i = 0; i < count; i + +) {
                                                                                                                                                                                                                                  protocol_isEqual(判断俩个协议
                                                                                                                                                                                                                                                                       BOOL result = protocol_isEqual(pro1, pro2);
                    objc_property_attribute_t t = result[i];
                                                                                                             property_copyAttributeList (获
                                                                                                                                                                                                                                                                       NSLog(@"lg_protocol_isEqual:%d",result);
                    NSLog(@"lg_property_copyAttributeList:%@",[NSString stringWithUTF8String:t.name]);
                                                                                                             取属性的属性列表)
                                                                                                                                                                                                                                                                       Protocol *pro = objc_getProtocol([@"UITableViewDelegate" UTF8String]);
                                                                                                                                                                                                                                                                       unsigned int count = 0;
                                                                                                    objc_enumerationMutation(检测到突变
                                                                                                                                                                                                                                                                       //参数:1.Protocol 2.是否为必须方法 3.是否为实例方法 4.unsigned int *
                                                                                                    时,编译器将插入次函数 并且调用
                                                                                                                                                                                                                                                                       struct objc_method_description *result = protocol_copyMethodDescriptionList(pro, NO, YES, &count);
                                                                                                    objc_setEnumerationMutationHandler设
                                                                                                                                                                                                                                                                       for (int i = 0; i < count; i + +) {
                                                                                                   置的回调函数,如果没有设置,则会崩溃)
                                                                 objc_enumerationMutation(self);
                                                                                                                                                                                                                                   protocol_copyMethodDescriptio
                                                                                                                                                                                                                                                                         struct objc_method_description des = result[i];
                                                                                                                                                                                                                                   nList(获取满足条件的协议的方
                                                                                                                                                                                                                                                                         NSLog(@"lg_protocol_copyMethodDescriptionList:%p",des.name);
                                                             /参数:函数指针
                                                                                                            objc_setEnumerationMutationH
                                                             objc_setEnumerationMutationHandler(enumerat
                                                                                                            andler (设置突变处理函数)
                                                             ionMutationHandler);
                                                                                                                                                                                                                                                                       Protocol *pro = objc_getProtocol([@"UITableViewDelegate" UTF8String]);
                                                                                                                                                                                                                                                                      //参数:1.Protocol 2.SEL 3.是否为必须方法 4.是否为实例方法
                                                        void (^blcok) (NSString *) = ^(NSString *str) {
                                                                                                                                                                                                                                  protocol_getMethodDescription
                                                                                                                                                                                                                                                                      struct objc_method_description result = protocol_getMethodDescription(pro,
                                                          NSLog(@"lg_imp_implementationWithBlock");
                                                                                                                                                                                                                                   (获取协议中指定方法的描述结
                                                                                                                                                                                                                                                                     NSSelectorFromString(@"tableView:willDisplayCell:forRowAtIndexPath:"), NO, YES);
                                                                                                                                                                                                                                   构体)
                                                                                                                                                                                                                                                                       NSLog(@"lg_protocol_getMethodDescription:%p",result.name);
                                                        //参数:block
                                                                                                              imp_implementationWithBlock
                                                        //返回:IMP
                                                                                                                                                                                                                                                                      Protocol *pro = objc_getProtocol([@"UITableViewDelegate" UTF8String]);
                                                                                                               (通过block获取一个方法的实
                                                       IMP result = imp_implementationWithBlock(blcok);
                                                                                                                                                                                                                                                                      unsigned int count = 0;
                                                       result();
                                                                                                                                                                                                                                                                      //参数:1.Protocol 2.unsigned int *
                                                                                                                                                                                                                                                                      //返回:协议的属性列表
                               void (^blcok) (NSString *) = ^(NSString *str) {
                                                                                                                                                                                                                                                                      objc_property_t *result = protocol_copyPropertyList(pro, &count);
                                 NSLog(@"lg_imp_implementationWithBlock:%@",str);
                                                                                                                                             Using Objective-C Language
                                                                                                                                                                                                                                                                      for (int i = 0; i < count; i + +) {
                                                                                                                                              Features(使用OC语言特性)
                                                                                                                                                                                                                                                                        objc_property_t t = result[i];
                               //参数:IMP
                                                                                                                                                                                                                                                                        NSLog(@"lg_protocol_copyPropertyList:%p",t);
                               //返回:block
                                                                                                                                                                                                                                  protocol_copyPropertyList(获
                                                                                                               imp_getBlock(通过IMP获取
                               void (^result) (NSString *) = imp_getBlock(imp_implementationWithBlock(blcok));
                                                                                                                                                                                                                                  取协议的属性列表)
                                                                                                               Block)
                               result(@"hello word");
                                                                                                                                                                                                                                                                                     Protocol *pro = objc_getProtocol([@"UITableViewDelegate" UTF8String]);
                                                                                                                                                                                                                                                                                     //参数:1.Protocol 2.属性名称 3.是否为必须方法 4.是否为实例方法
//返回:BOOL
                                                                                                                                                                                                                                                                                    objc_property_t result = protocol_getProperty(pro, [@"" UTF8String], YES, YES);
                                                                                                             imp_removeBlock(解除IMP与
BOOL result = imp_removeBlock(class_getMethodImplementation(self.class, NSSelectorFromString(@"lg_method")));
                                                                                                                                                                                                                                  protocol_getProperty(获取协议中指定的属性)
                                                                                                                                                                                                                                                                                     NSLog(@"lg_protocol_getProperty:%p",result);
                                                                                                             Block关联)
NSLog(@"lg_imp_removeBlock:%d",result);
                                                                                                                                                                                                                                                                        Protocol *pro = objc_getProtocol([@"UITableViewDelegate" UTF8String]);
                                                       该函数加载一个弱指针引用的对象,并在对其做retain和autoreleasing操
                                                                                                                                                                                                                                                                       unsigned int count = 0;
                                                       作后返回它。这样,对象就可以在调用者使用它时保持足够长的生命周
                                                                                                                                                                                                                                                                       //参数:1.Protocol 2.unsigned int *
                                                                                                                                                                                                                                                                        //返回:协议列表
                                                       期。该函数典型的用法是在任何有使用__weak变量的表达式中使用
                                                                                                                          objc_loadWeak
                                                                                                                                                                                                                                                                        Protocol __unsafe_unretained **result = protocol_copyProtocolList(pro, &count);
                                                                                       该函数的典型用法是用于__weak
                                                                                                                                                                                                                                                                       for (int i = 0; i < count; i + +) {
                                                                                       变量做为赋值对象时
                                                                                                                         objc_storeWeak
                                                                                                                                                                                                                                                                         Protocol *p = result[i];
                                                                                                                                                                                                                                                                          NSLog(@"lg_protocol_copyProtocolList:%@",p);
                                                                                                                                                                                                                                  protocol_copyProtocolList(获取
```

协议中采用的协议列表)

protocol conformsToProtocol

(判断一个协议是否遵循另一个

free(result);

//参数:Protocol

//返回:BOOL

Protocol *pro1 = objc_getProtocol([@"UITableViewDelegate" UTF8String]);

Protocol *pro2 = objc_getProtocol([@"UIScrollViewDelegate" UTF8String]);

BOOL result = protocol_conformsToProtocol(pro1, pro2);

NSLog(@"lg_protocol_conformsToProtocol:%d",result);

//参数:IMP

//参数:类Class

//返回:类Class

//参数:类Class

//返回:父类Class

class_getName(获取类的名称)

Class result = class_getSuperclass([ViewController class]);

Class result = class_getSuperclass([ViewController class]);

NSLog(@"lg_class_getName:%@",result);