# 实验二实验报告

## 1 UML设计图

单例模式 多例模式



## 2 核心代码

单例模式

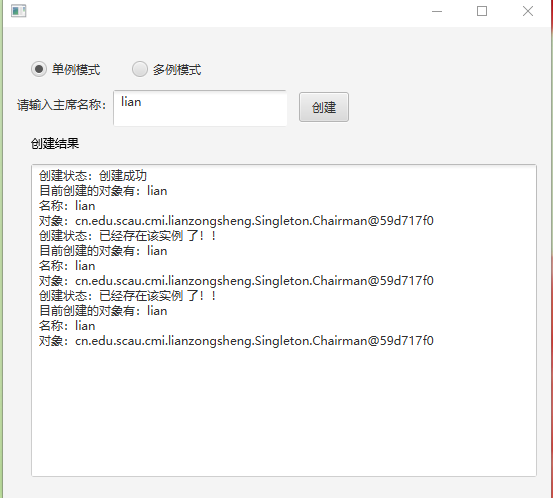
|  |
| --- |
| **package** cn.edu.scau.cmi.lianzongsheng.Singleton;  **import** java.util.Set;  **public** **final** **class** Chairman **implements** ChairmanInterface {  **private** **static** Chairman *singleton*;  **private** String chairman\_name;  **private** **static** String *message*;  **private** Chairman(String name) {  **this**.chairman\_name = name;  **this**.*message* = "创建成功";  }  //懒汉模式  **public** **static** Chairman getInstance(String name) {  **if**(*singleton*==**null** ) {  *singleton* =**new** Chairman(name);  }  **else** {  *message* ="已经存在该实例 了！！";  }  **return** *singleton*;  }  //获取名字  **public** **static** String getName() {  **return** *singleton*.chairman\_name;  }  //获取创建信息  **public** **static** String getInitMessage() {  Return message;  }  //获取所有实例名称  **public** **static** String getAllInstancesName() {  **return** *singleton*.chairman\_name;  }  } |

多例模式

|  |
| --- |
| package cn.edu.scau.cmi.lianzongsheng.Singleton;  import java.text.MessageFormat;  import java.util.HashMap;  import java.util.HashSet;  import java.util.Set;  public class MultiChairman implements ChairmanInterface{  private static HashMap<String, MultiChairman> instance\_map = new HashMap<>();  private static int instance\_num = 10;  private String own\_name;  private static String message;  private MultiChairman(String name) {  this.own\_name = name;  this.message =MessageFormat.format("创建成功,还可以创建 {0} 个实例\n",instance\_num);  }  //实例化  public static MultiChairman getInstance(String name) {    MultiChairman instance=null;  instance = instance\_map.get(name);  if(instance==null) {  instance\_num-=1;//统计已经初始化的实例  if(instance\_num>0) {  instance = new MultiChairman(name);  instance\_map.put(name, instance);  }  else {//对象已经满了  instance = instance\_map.get(name);  message = "不好意思，对象已经创建满了";  }  }  else {  message = "实例已存在!";  }    return instance;      }  //获取名字  public String getName() {  return own\_name;  }  //获取创建信息  public static String getInitMessage() {  return message;  }  //获取所有实例名称  public static Set<String> getAllInstancesName() {  return instance\_map.keySet();  }    } |

## 3 运行效果

单例模式



多例模式

