# 任务单05 类和对象

班级： 姓名： 学号：

1. 编写矩形类，该类有矩形的长和宽属性（私有）、计算矩形的周长和面积、输出矩形的基本信息。再设计一个类来创建该类的对象(3个对象)并实现其功能。

程序代码：

**public** **class** T1 {

**public** **static** **void** main(String[] args) {

Recgle r1 = **new** Recgle();

r1.setChang(24);

r1.setKuan(14.9);

System.***out***.println("矩形1的面积是"+ r1.area());

Recgle r2 = **new** Recgle();

r2.setChang(12);

r2.setKuan(15.2);

System.***out***.println("矩形2的周长是"+ r2.zhouchang());

Recgle r3 = **new** Recgle();

r3.setChang(19);

r3.setKuan(11.2);

r3.print\_recl("3");

}

}

**class** Recgle{

**private** **double** chang;

**private** **double** kuan;

// 周长

**public** **double** zhouchang(){

**return** (chang + kuan) \* 2;

}

// 面积

**public** **double** area(){

**return** chang \* kuan;

}

// 基本信息

**public** **void** print\_recl(String st){

System.***out***.println("矩形"+ st +"的长是：" +chang +"厘米,宽是："+ kuan +"厘米");

}

**public** **void** setChang(**double** chang){

**this**.chang = chang;

}

**public** **double** getChange(){

**return** chang;

}

**public** **void** setKuan(**double** kuan){

**this**.kuan = kuan;

}

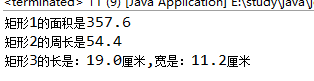
**public** **double** getKuan(){

**return** kuan;

}

}

运行结果：



1. 定义并测试一个学生类，类中有成员变量学号、班级、姓名、年龄、性别、《高等数学》、《大学英语》、《网页设计》、《Java程序基础》4门课程的成绩；有输出学生信息方法，计算成绩总和，计算多门课程平均成绩，最高分，最低分的成员方法。

程序代码：

**public** **class** T2 {

**public** **static** **void** main(String[] args) {

Student stu = **new** Student();

stu.setStu\_no(18305);

stu.setStu\_class("软件1班");

stu.setStu\_name("张三");

stu.setStu\_age(20);

stu.setStu\_sex("男");

stu.setStu\_math(89);

stu.setStu\_english(87);

stu.setStu\_web(67);

stu.setStu\_java(87);

stu.print\_stu();

System.***out***.println("总分："+stu.sumscore());

System.***out***.println("平均分："+stu.avgscore());

System.***out***.println("最高分："+stu.maxscore());

System.***out***.println("最低分："+stu.minscore());

}

}

**class** Student {

**private** **long** stu\_no;

**private** String stu\_class;

**private** String stu\_name;

**private** **int** stu\_age;

**private** String stu\_sex;

**private** **double** stu\_math;

**private** **double** stu\_english;

**private** **double** stu\_web;

**private** **double** stu\_java;

// 输出学生信息方法

**public** **void** print\_stu() {

System.***out***.println("该生基本信息，姓名:" + stu\_name + " 学号：" + stu\_no + " 班级：" + stu\_class + " 年龄：" + stu\_age + " 性别:"

+ stu\_sex + " ，成绩，《高等数学》：" + stu\_math + "《大学英语》：" + stu\_english + "《网页设计》：" + stu\_web + "《JAVA程序基础》"

+ stu\_java);

}

// 成績总和

**public** **double** sumscore(){

**return** (stu\_math + stu\_english + stu\_web + stu\_java);

}

// 平均成绩

**public** **double** avgscore(){

**return** (stu\_math + stu\_english + stu\_web + stu\_java) / 4;

}

// 最高分

**public** **double** maxscore(){

**double** a[] = {stu\_math, stu\_english, stu\_web, stu\_java};

**double** max = -(1 << 30);

**for**(**int** i = 0; i < a.length; i++){

**if**(max < a[i]){

max = a[i];

}

}

**return** max;

}

// 最低分

**public** **double** minscore(){

**double** a[] = {stu\_math, stu\_english, stu\_web, stu\_java};

**double** min = 1 << 30;

**for**(**int** i = 0; i < a.length; i++){

**if**(min > a[i]){

min = a[i];

}

}

**return** min;

}

**public** String getStu\_name() {

**return** stu\_name;

}

**public** **void** setStu\_name(String stu\_name) {

**this**.stu\_name = stu\_name;

}

**public** **long** getStu\_no() {

**return** stu\_no;

}

**public** **void** setStu\_no(**long** stu\_no) {

**this**.stu\_no = stu\_no;

}

**public** String getStu\_class() {

**return** stu\_class;

}

**public** **void** setStu\_class(String stu\_class) {

**this**.stu\_class = stu\_class;

}

**public** **int** getStu\_age() {

**return** stu\_age;

}

**public** **void** setStu\_age(**int** stu\_age) {

**this**.stu\_age = stu\_age;

}

**public** String getStu\_sex() {

**return** stu\_sex;

}

**public** **void** setStu\_sex(String stu\_sex) {

**this**.stu\_sex = stu\_sex;

}

**public** **double** getStu\_math() {

**return** stu\_math;

}

**public** **void** setStu\_math(**double** stu\_math) {

**this**.stu\_math = stu\_math;

}

**public** **double** getStu\_english() {

**return** stu\_english;

}

**public** **void** setStu\_english(**double** stu\_english) {

**this**.stu\_english = stu\_english;

}

**public** **double** getStu\_web() {

**return** stu\_web;

}

**public** **void** setStu\_web(**double** stu\_web) {

**this**.stu\_web = stu\_web;

}

**public** **double** getStu\_java() {

**return** stu\_java;

}

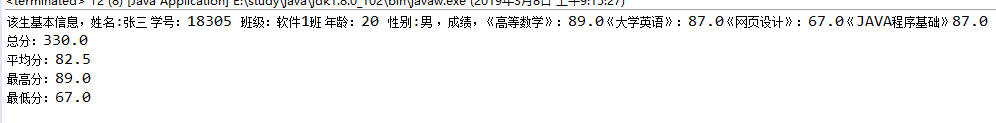
**public** **void** setStu\_java(**double** stu\_java) {

**this**.stu\_java = stu\_java;

}

}

运行结果：



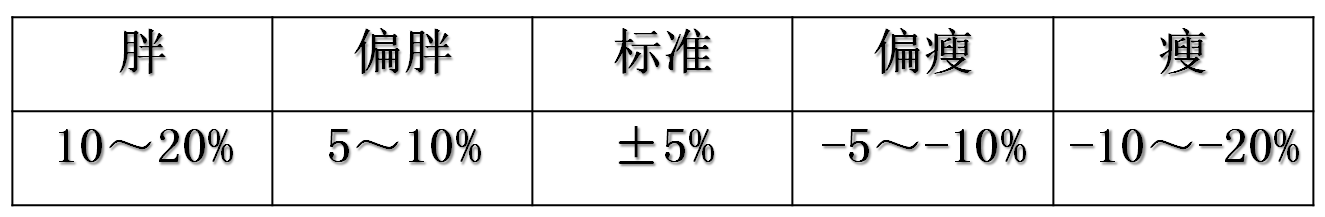
1. 设计一个类，根据用户给出的身高和体重显示标准体重以及结论（胖\偏胖\标准\偏瘦\瘦）。再设计一个类来创建该类的对象并实现其功能。

提示：

（1）计算标准体重的公式为：

标准体重(kg)=（身高(cm)-100）\*0.9

（2）以表达式（(体重-标准体重)/标准体重）的值来划分“胖\偏胖\标准\偏瘦\瘦”：



程序代码：

**public** **class** T3 {

**public** **static** **void** main(String[] args) {

TestWeight t1 = **new** TestWeight();

t1.setHigh(167);

t1.setWeight(63);

t1.print\_standerweight();

t1.print\_colcution();

}

}

**class** TestWeight {

**private** **double** high;

**private** **double** weight;

// 标准体重

**public** **void** print\_standerweight() {

**double** standw = (high - 100) \* 0.9;

**double** savetwo = Math.*round*(standw \* 100) / 100.0;

System.***out***.println("身高" + high + "cm的标准体重是：" + savetwo + "KG");

}

// 结论

**public** **void** print\_colcution() {

System.***out***.print("身高" + high + "cm,体重：" + weight + "kg" + "的结论是：");

**double** standw = (high - 100) \* 0.9;

**double** val = (weight - standw) / standw;

**double** savetwo = Math.*round*(val \* 100) / 100.0;

**if** (-20 <= savetwo && savetwo < -10) {

System.***out***.println("瘦");

} **else** **if** (-10 <= savetwo && savetwo < -5) {

System.***out***.println("偏瘦");

} **else** **if** (-5 <= savetwo && savetwo < 5) {

System.***out***.println("标准");

} **else** **if** (5 <= savetwo && savetwo < 10) {

System.***out***.println("偏胖");

} **else** **if** (10 <= savetwo && savetwo < 20) {

System.***out***.println("胖");

}

}

**public** **double** getHigh() {

**return** high;

}

**public** **void** setHigh(**double** high) {

**this**.high = high;

}

**public** **double** getWeight() {

**return** weight;

}

**public** **void** setWeight(**double** weight) {

**this**.weight = weight;

}

}

运行结果：

