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| 课程名称 | C++ | | | | |
| 实验名称 | 实验三：构造函数与析构函数 | | | | |
| 实验时间 | 2021-11-5 | | 实验地点 | 1j705 | |
| 学 院 | 自动化与电气工程学院 | | 专 业 | 电气工程及其自动化 | |
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| **实验报告内容基本要求参考格式**   1. 实验程序 2. 实验结果 3. 心得体会 | | | | | |
| 1. 实验程序   1、  #include<iostream>  using namespace std;  class Coordinate { // 定义Coordinate类  public:  Coordinate()  {  times = 2;  cout << "Coordinate construction1 called!" << endl;  }  Coordinate(int times1)  {  times = times1;  cout << "Coordinate construction2 called!" << endl;  }  ~Coordinate()  {  cout << "Coordinate destruction called!" << endl;  }  void InputCoord()  {  for (int i = 0; i < times; i++)  {  cout << "Please Input x:" << endl;  cin >> Coord[i][1];  cout << "Please Input y:" << endl;  cin >> Coord[i][2];  }  }  void ShowCoord()  {  cout << "The coord is:" << endl;  for (int i = 0; i < times; i++)  {  cout << "(" << Coord[i][1] << "," << Coord[i][2] << ")" << endl;  }  }  void ShowAvgCoord()  {  float avgx = 0;  float avgy = 0;  for (int i = 0; i < times; i++)  {  avgx = avgx + Coord[i][1];  avgy = avgy + Coord[i][2];  }  avgx = avgx / times;  avgy = avgy / times;  cout << "The AVG coord is:" << endl;  cout << "(" << avgx << "," << avgy << ")" << endl;  }  private:  float Coord[100][100]; // 存放输入坐标的数组  int times; // 存放输入坐标数目  };  int main(){  Coordinate y(5);  y.InputCoord();  y.ShowCoord();  y.ShowAvgCoord();  return 0;  }  2、  #include <iostream>  #include <string>  using namespace std;  class score  {  private:  int time;  double cj[100][100];  string name[100];  string copy[100];  public:  score()  {  time = 2;//默认为2  cout << "默认两组" << endl;  }  score(int time1)  {  time = time1;  cout << "用户自定义组数" << endl;  }  ~score()  {  cout << "Destructor called" << endl;  }  void input()  {  for (int i = 0; i < time; ++i)  {  cout << "请输入学生的姓名和成绩：" << endl;  cin >> name[i];  cin >> cj[i][1] >> cj[i][2] >> cj[i][3];  }  }  void show()  {  for (int i = 0; i < time; ++i)  {  cout << name[i] << "学科A的成绩为：" << cj[i][1] << " ";  cout << name[i] << "学科B的成绩为：" << cj[i][2] << " ";  cout << name[i] << "学科C的成绩为：" << cj[i][3] << endl;  }  }  void avg()  {  double a = 0;  for (int i = 0; i < time; ++i)  {  a = cj[i][1] + cj[i][2] + cj[i][3];  cout << name[i] << "的平均成绩为：" << a / 3 << " ";  }  cout << endl;  }  void showavg()  {  double a = 0;  double b = 0;  double c = 0;  for (int i = 0; i < time; ++i)  a = a + cj[i][1];  for (int i = 0; i < time; ++i)  b = b + cj[i][2];  for (int i = 0; i < time; ++i)  c = c + cj[i][3];  cout << "学科A的平均成绩为" << a / time << " ";  cout << "学科B的平均成绩为" << b / time << " ";  cout << "学科C的平均成绩为" << c / time << endl;  }  void px()  {  for (int i = 0; i < time; ++i) //将name数组复制一个  copy[i] = name[i];  for (int i = 0; i < time - 1; i++)  for (int j = 0; j < time - i - 1; j++)  if (cj[j][1] < cj[j + 1][1]) //改变了name数组数据的位置  {  double temp = cj[j + 1][1];  cj[j + 1][1] = cj[j][1];  cj[j][1] = temp;  string t = name[j + 1];  name[j + 1] = name[j];  name[j] = t;  }  cout << "学科A的排序为：" << endl;  for (int i = 0; i < time; ++i) //打印姓名和对应的成绩  {  cout << name[i] << " " << cj[i][1] << endl;  }  for (int i = 0; i < time; ++i) //重置name数组  name[i] = copy[i];  for (int i = 0; i < time - 1; i++)  for (int j = 0; j < time - i - 1; j++)  if (cj[j][2] < cj[j + 1][2])  {  double temp = cj[j + 1][2];  cj[j + 1][2] = cj[j][2];  cj[j][2] = temp;  string t = name[j + 1];  name[j + 1] = name[j];  name[j] = t；  }  cout << "学科B的排序为：" << endl;  for (int i = 0; i < time; ++i) //打印姓名和对应的成绩  {  cout << name[i] << " " << cj[i][2] << endl;  }  for (int i = 0; i < time; ++i) //重置name数组  name[i] = copy[i];  for (int i = 0; i < time - 1; i++)  for (int j = 0; j < time - i - 1; j++)  if (cj[j][3] < cj[j + 1][3])  {  double temp = cj[j + 1][3];  cj[j + 1][3] = cj[j][3];  cj[j][3] = temp;  string t = name[j + 1];  name[j + 1] = name[j];  name[j] = t;  }  cout << "学科C的排序为：" << endl; //打印姓名和对应的成绩  for (int i = 0; i < time; ++i)  {  cout << name[i] << " " << cj[i][3] << endl;  }  }  };  int main()  {  score a(3);  a.input();  a.show();  a.avg();  a.showavg();  a.px();  return 0;  }    二、实验结果    2021-12-15 (2)    2021-12-15 (3)  三、心得体会  第三章是C++入门的一把很重要的钥匙，知识点和课后作业都有一定难度，从第三章已经体会到了这门学科的难度，但是我还是会努力克服困难，尤其是在上机实践的时候的确让我感受到了巨大的阻力，zai在书写大量代码的同时，要时刻注意类成员的安全性和代码的调用，之前在c语言都没有写过这么长的程序，也在编写程序的时候遇到了很多困难，及时找同学和学长讨论，解决了疑问，大概认识到了，c++就是把程序都放到了类这个大的框架之中，果然实践能够发现许多问题，在改正后相信会对本章知识有一个新的理解！  Copyright ©2021-2099 电自2003班 白志伟202030310228. All rights reserved | | | | | |