北京师范大学2018-2019学年第一学期 “C++程序设计”

# 课堂练习二

| 姓 名 | 学 号 | 日 期 |
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| 袁宇昊 | 201611130126 | 2018.10.09 |

## 练习4-1

完成桌子类的构造函数，并在主函数中测试输出，定义桌子对象并输出桌子信息，定义桌子对象数组并输出所有桌子信息。

```
#include <iostream>
using std::cout;
using std::endl;

class Desk {
public:
    void setWeight(int w) { weight = w; }
    void printInfo();
private:
    int weight, length, width, height;
};

void Desk:: printInfo() {
    cout << "Desk weight: " << weight << endl;
    cout << "Desk length: " << length << endl;
    cout << "Desk width: " << width << endl;
    cout << "Desk height: " << height << endl;
}

int main(void) {
    Desk d(2, 3, 3, 5);
    d.printInfo();
    Desk da[10];
    for (int i = 0; i < 10; i++)
        da[i].printInfo();
    return 0;
}
```

## 解答：

在下面给出你的构造类函数以及必要的说明，不需要全部代码。完整代码和本文件打包发送给助教老师。

```
{//class里面的声明语句:
    Desk(int newwei,int newlen,int newwid,int newhei);
    Desk();
}

Desk::Desk(int newwei,int newlen,int newwid,int newhei)//带参数的构造函数 为了能够定义d
{
    weight=newwei,length=newlen,width=newwid,height=newhei;
}

Desk::Desk()//无参数的构造函数 为了能够定义da数组
{

}
```

# 练习4-2

**添加拷贝构造函数**使得下列时钟功能的程序能够正常运行。

```
#include <iostream>
class Clock {
private:
    int hour, minute, second;
    char *caption;    //指向保存时区说明的字符串。
public:
    void setHour(int h) { hour = h; }
    void setMinute(int m) { minute = m; }
    void setSecond(int s) { second = s; }
    void setCaption(char* cs);
    void dispTime() {
        std::cout << "Now is: ";
        std::cout << hour << ":" << minute << ":" << second;
        std::cout << std::endl;
    }
    char* getCaption() { return caption; }
    void Destroy() { delete[]caption; }
};

void Clock::setCaption(char* cs) {
    int len = strlen(cs);
    caption = new char[len + 1];
    strcpy(caption, cs);
}

int main(void){
    Clock aClock;
    aClock.setMinute(12);
    aClock.setHour(16);
    aClock.setSecond(27);
    aClock.setCaption("From Beijing Time.");
```

```
    Clock bClock = aClock;
    aClock.Destroy();
    bClock.dispTime();
    std::cout << bClock.getCaption() << std::endl;
    return 0;
}
```

## 解答：

```
{//class里面的声明语句：
    Clock(const Clock& p);
    Clock();
}

Clock::Clock(const Clock& p)//拷贝构造函数 为了生成bClock对象
{
    hour=p.hour,minute=p.minute,second=p.second;
    caption = new char[strlen(p.caption)+1];
    strcpy(caption,p.caption);
}

Clock::Clock()//无参数构造函数 为了生成aClock对象
{

}
```