第八次作业

第一题

f1不是虚函数，执行结果应该是B::f1;B::f1

第二题

```
#include <iostream>
using namespace std;
class Shape {
public:
    Shape() {}
    virtual ~Shape() {}
    virtual double getC() = 0;
    virtual double getS() = 0;
private:

};
class Circle :public Shape{
public:
    Circle(double radius):r(radius) {}

    ~Circle() {}
    virtual double getC() {
        return 2 * 3.14159 * r;
```

```
    }
    virtual double getS() {
        return 3.14159 * r * r;
    }
private:
    double r;
};
class Rect :public Shape{
public:
    Rect(double length):len(length) {}

    ~Rect() {}
    virtual double getC() {
        return 4 * len;
    }
    virtual double getS() {
        return len * len;
    }
private:
    double len;
};

int main() {
    Circle cir(3.0);
    Rect in(2.0 * 3.0 / 1.414), out(2 * 3.0);
    cout << "周长: " << cir.getC() << "  " << "面积: " << cir.getS() << endl;
    cout << "周长: " << in.getC() << "  " << "面积: " << in.getS() << endl;
    cout << "周长: " << out.getC() << "  " << "面积: " << out.getS() << endl;
}
```

```
周长: 18.8495  面积: 28.2743
周长: 16.9731  面积: 18.0054
周长: 24  面积: 36
```

第三题

```cpp
#include <iostream>
using namespace std;
class Shape {
public:
    Shape() {}
    ~Shape() {}
    virtual float GetPerim() = 0;
    virtual float GetArea() = 0;
private:

};
class Circle :public Shape {
public:
    Circle(float radius) :r(radius) {}

    ~Circle() {}
    virtual float GetPerim() {
        return 2 * 3.14159 * r;
    }
    virtual float GetArea() {
        return 3.14159 * r * r;
    }
private:
    float r;
};
class Rectangle :public Shape {
public:
    Rectangle(float length) :len(length) {}

    ~Rectangle() {}
    virtual float GetPerim() {
        return 4 * len;
    }
    virtual float GetArea() {
        return len * len;
    }
private:
    float len;
};

```

```cpp
int main() {
    Circle cir(3.0);
    Rectangle in(2.0 * 3.0 / 1.414), out(2 * 3.0);
    cout << "周长：" << cir.GetPerim() << "  " << "面积：" << cir.GetArea() << endl;
    cout << "周长：" << in.GetPerim() << "  " << "面积：" << in.GetArea() << endl;
    cout << "周长：" << out.GetPerim() << "  " << "面积：" << out.GetArea() << endl;
}
```