



**Westfälische
Hochschule**

Gelsenkirchen Bocholt Recklinghausen

Grundlagen der Informatik und Programmierung 2

Objektorientierte Programmierung

Code-Hygiene in Klassen

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```
class Foo {  
    public:  
        int GetBar() { return bar_; }  
        void SetBar(int bar) { bar_ = bar; }  
  
    private:  
        int bar_;  
};
```

- ▶ Zugriffsschutz verhindert direkten Zugriff auf private-Member von außen.
- ▶ Getter- und Setter-Methoden erlauben den Zugriff.

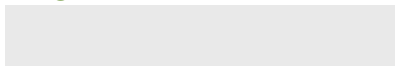
```
class Foo {  
    friend class Bar;  
  
private:  
    int bar_{42};  
};
```

```
class Bar {  
    friend int main(int, char**);  
  
public:  
    Bar(const Foo f) : baz_{f.bar_} {}  
  
private:  
    int baz_{0};  
};
```

anwendender Code:

```
int main(int argc, char** argv) {  
    Foo f;  
    Bar b(f);  
    std::cout << b.baz_ << std::endl;  
    return EXIT_SUCCESS;  
}
```

Ausgabe:



```
class Foo {  
    friend class Bar;  
  
    private:  
        int bar_{42};  
};
```

```
class Bar {  
    friend int main(int, char**);  
  
    public:  
        Bar(const Foo f) : baz_{f.bar_} {}  
  
    private:  
        int baz_{0};  
};
```

- ▶ Zugriffsschutz verhindert Zugriff auf private-Member von außen.
- ▶ friend-Schlüsselwort erlaubt den Zugriff.

- ▶ A module should not know about the innards of the objects it manipulates.
- ▶ A method *f* of a class *C* should only call the methods of these
 - ▶ *C*
 - ▶ An object created by *f*.
 - ▶ An object passed as an argument to *f*.
 - ▶ An object held in an instance variable of *C*.

The method should not invoke methods on objects that are returned by any of the allowed functions.

²Robert C. Martin: *Clean Code*, Chapter 6. Prentice Hall, 2008.

- ▶ Andrew Hunt, David Thomas:
The Art of Enbugging.
In: IEEE Software, 20(1):10–11, 2003.
- ▶ David Thomas, Andrew Hunt:
The Pragmatic Programmer: From Journeyman to Master.
Addison-Wesley Professional, 1999.
- ▶ Robert C. Martin:
Clean Code.
Prentice Hall, 2008.
- ▶ Robert C. Martin:
The Clean Coder.
Prentice Hall, 2011.

- ▶ Getter- und Setter-Methoden
- ▶ Freundschaft
- ▶ Tell, don't ask!
- ▶ The Law of Demeter

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Visual Computing

- Web: <https://vc.w-hs.de>
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