Klassen und Vererbung 2

Vorkurs C/C++, Olaf Bergmann

Polymorphie

```cpp
class Point {
private:
  double x, y;
public:
  void draw();
};
```

```cpp
class NewPoint : public Point {
public:
  void draw();
};
```

```cpp
NewPoint np;
Point &p = np;

np.draw();
p.draw();
```

Erzeugt eine Referenz auf np

NewPoint::draw()
Point::draw()

Vererbung: virtuelle Methoden

```cpp
class Point {
private:
  double x, y;
public:
  virtual void draw();
};
```

ermöglicht Polymorphie

```cpp
class NewPoint
  : public Point {
public:
  void draw();
};
```

```cpp
NewPoint np;
Point &p = np;

np.draw();
p.draw();
```

NewPoint::draw()
NewPoint::draw()

Rein virtuelle (= pure virtual) Methoden

```cpp
class Point {
private:
  double x, y;
public:
  virtual void draw() = 0;
};
```

> Muss von abgeleiteten Klassen implementiert werden.

```cpp
Point p;              /* FEHLER */

NewPoint np;      /* OK */
Point &pp = np;   /* OK */

pp.draw();          /* NewPoint::draw() */
```