person_s_inh

```cpp
#include <iostream>
#include <string>
using namespace std;

class person {     string name; int  jahr;
  public:
      person(string n="", int j=2005):jahr(j),name(n){}

      virtual void dummy(){}               // wegen dynamic_cast<student *>
      int get_jahr() const { return jahr; }
      string get_name() const { return name; }
      person get_person() const { return *this; }
};


class student : public person {
      unsigned long matrnr;
      string studg;
  public:
      student(string n="", int j=2005, unsigned long m=4711,
      string s="WI04"): person(n, j), matrnr(m),studg(s){}

      unsigned long get_matrnr() const { return matrnr; }
      string get_studg() const { return studg; }
      student get_person() const { return *this; }    // overwritten
};


void main(){
      person *p1 = new student("Lehmann", 1984, 22337, "WI07");
      cout<<"p1->jahr   = "<<p1->get_jahr()<<endl;
      cout<<"p1->name   = "<<p1->get_name()<<endl;
      cout<<"p1->matrnr = "<<((student *)p1)->get_matrnr()<<endl; //unsafe,true
      cout<<"p1->studg  = "<<static_cast<student *>(p1)->get_studg()<<endl; //" , "

      person *p2 = new person("Schulze", 1964);
      cout<<"p2->jahr   = "<<p2->get_jahr()<<endl;
      cout<<"p2->name   = "<<p2->get_name()<<endl;
      cout<<"p2->matrnr = "<<((student *)p2)->get_matrnr()<<endl; // unsafe, false
//    cout<<"p2->studg  = "<<static_cast<student *>(p2)->get_studg()<<endl; // "," , Abbruch

      cout<<"p1->studg  = "<<(dynamic_cast<student *>(p1) ?
                         dynamic_cast<student *>(p1)->get_studg():
                         "unzulaessiger Downcast")<<endl; //safe, true

      try { dynamic_cast<student &>(*p2); // alternativ mit Referenz
            cout<<"p2->studg  = "<<dynamic_cast<student *>(p2)->get_studg()<<endl;
      }
      catch(...){
            cout<<"p2->studg  = "<<"unzulaessiger downcast"<<endl; //safe
      }

      delete p1; p1=0; delete p2; p2=0; cin.ignore();
}
```

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```
/*
p1->jahr   = 1984
p1->name   = Lehmann
p1->matrnr = 22337
p1->studg  = WI07
p2->jahr   = 1964
p2->name   = Schulze
p2->matrnr = 4261281277
p1->studg  = WI07
p2->studg  = unzulaessiger downcast
*/
```