operator=

Overloading the assignment operator

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ASSIGNMENT OPERATOR VS. COPY CONSTRUCTOR

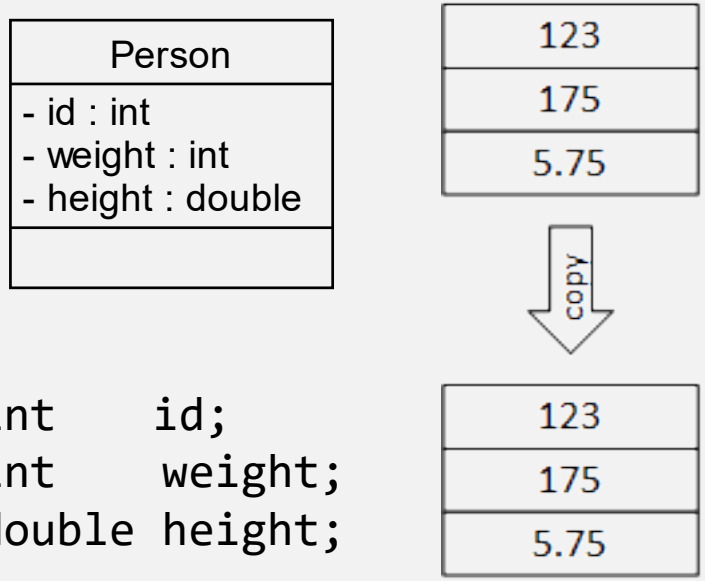
COPY CONSTRUCTOR

- Copies data to a new object
- `Person p1(p);`
- `Person p2 = p;`

ASSIGNMENT OPERATOR

- Copies data to an existing object
- `Person p(…), p2(…);`
- …
- `p2 = p;`

SIMPLE OBJECT COPY
THE COMPILER-CREATED operator=

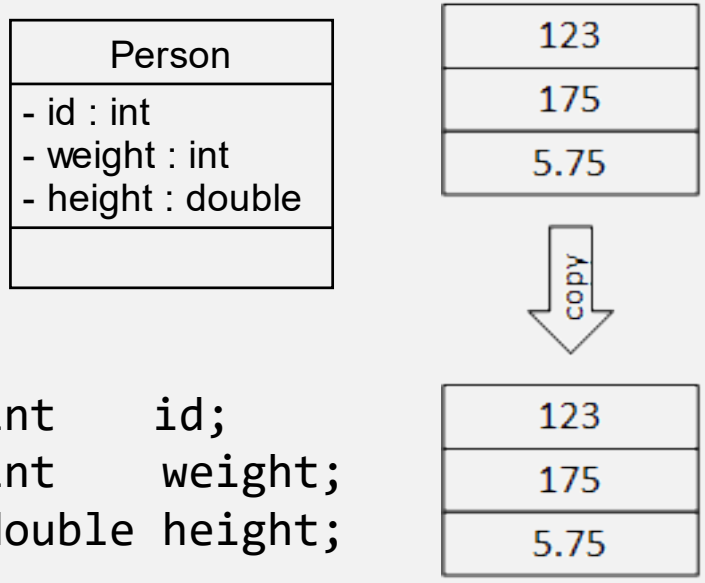



```
int    id;
int    weight;
double height;
```

```
Person& Person::operator=(Person& p)
{
    if (this == &p)
        return *this;
    id = p.id;
    weight = p.weight;
    height = p.height;

    return *this;
}
```

SIMPLE OBJECT COPY
THE COMPILER-CREATED operator=




```
int    id;
int    weight;
double height;
```

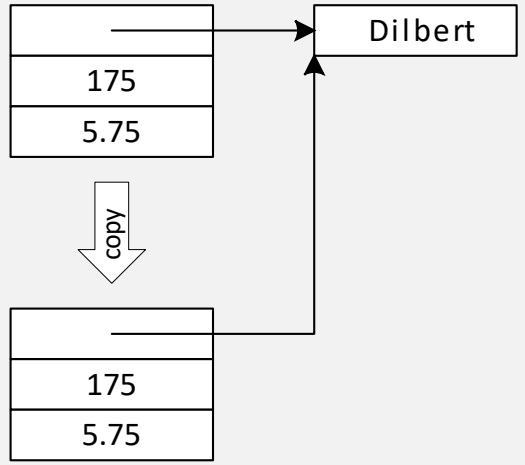
```
Person& Person::operator=(Person& p)
{
    if (this == &p)
        return *this;
    id = p.id;
    weight = p.weight;
    height = p.height;

    return *this;      // p2 = p1 = p;
}
```

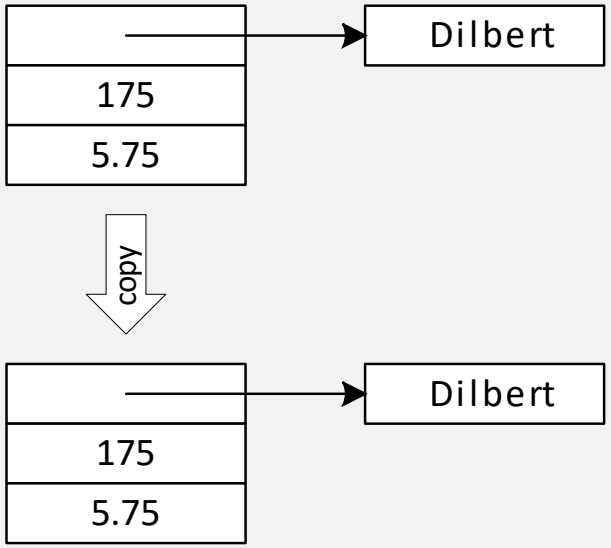
COPY ERROR

Person
- name : string* - weight : int - height : double

```
string* name;
int     weight;
double  height;
```



OVERRIDING THE COPY CONSTRUCTOR COPYING A COMPLEX OBJECT




```
Person& Person::operator=(Person& p)
{
    if (&p == this)
        return *this;

    if (name != nullptr) delete name;

    name = new string(*p.name);
    weight = p.weight;
    height = p.height;

    return *this;
}
```