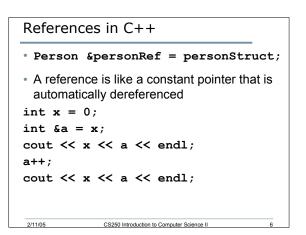


```
Review of structs
struct Person
{
    char nameStr[20];
    char ssNum[9];
    int age;
};
• What do each of the following declarations mean?
Person personStruct;
Person personArry[5];
Person *pPerson = &personStruct;
Person &personRef = personStruct;
```



# **Rules for References**

- A reference must be initialized when it is created
- Once a reference is initialized to an object, it cannot be changed to refer to another object
- You cannot have NULL references

## Accessing Structure Members

- · How do we access structure members?
- How can I initialize the contents of personStruct using the object itself, the pointer, and the reference?

### Classes

2/11/05

• The reserved word class is used to create the complex structure

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- · Classes differ from structures in that:
  - They don't just combine simple data types into one object

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 They also describe how that data can be manipulated

# More on Objects Object-oriented programming hides the details of objects from objects of other types When an object needs information from another object or needs another object to perform a task, it sends a message to the object requesting what it needs As a result, object-oriented programs can be written more generically than structured programs Usually, making changes to the object-oriented programs is easier than changing structured programs

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# In Summary

2/11/05

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- A class is like a struct but much more
- Whereas structs can contain simple data types, classes contain both *data types* and *functions* that manipulate the class data

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## A C++ Example

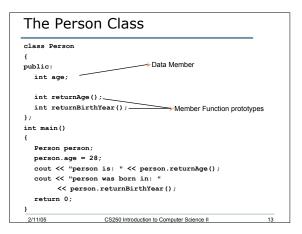
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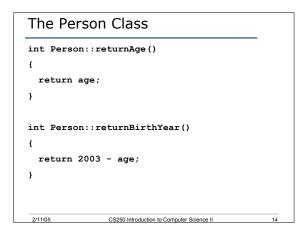
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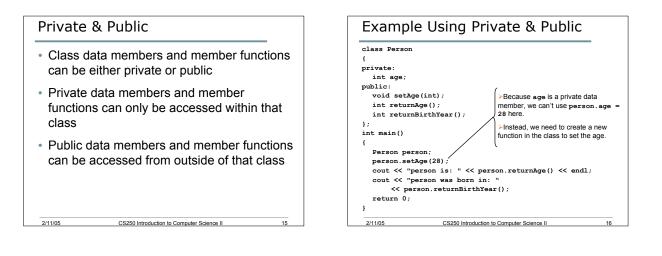
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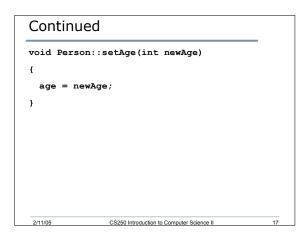
- · Enough of theory!
- · Let's have a look at a real example.
- We will create a class Person that will:
  - Store information about person
  - Store functions to manipulate this information

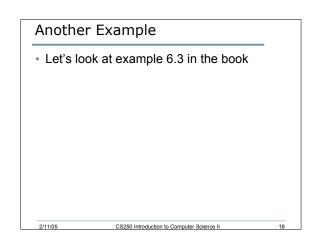
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# Summary

- Today I introduced
  - Review of structures
  - References
  - Classes

2/11/05

- We have covered:
  - o P. 405 418 in Chapter 6

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