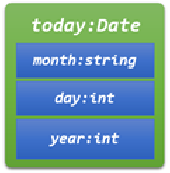
Structure Variables

A structure definition introduces a new type. Once you have the type definition, you can **define variables**, as you would with any other type.

```
int n;          // uninitialized int variable n
Date today;     // uninitialized Date variable today
```

These two lines instruct the compiler to **allocate memory** for the `int` variable `n`, and for the `Date` variable `today`. The `Date` variable today includes data members that store the values of its `month`, `day` and `year` components.

If you were to draw a box diagram of the variable, it would look something like the picture on the right. Just as the `int` variable `n` is **uninitialized**, `day` and `year` in the variable today are **also** uninitialized.



*The `month` member is **default initialized**, because it is a library type. This is the opposite of Java. If we were to create a Java `Date` class with a public `String` field, that field would be uninitialized, while the primitive types would be default initialized.*

Anonymous Structures

You may also create a **structure variable** along with the definition. This can be useful when you need to group together a pair of variables for immediate use.

```
struct iPair {int a, b;} p1;
struct {int a, b} p2;
```

Here, `p1` is a structure variable, of type `iPair`. When you do this, you may also **omit** the structure tag, as is done for the variable `p2`, creating an **anonymous structure**.