name member of the `part` structure). Let's explore the other possibilities: structures whose members are structures and arrays whose elements are structures.

Nested Structures

Nesting one kind of structure inside another is often useful. For example, suppose that we've declared the following structure, which can store a person's first name, middle initial, and last name:

```
struct person_name {
  char first[FIRST_NAME_LEN+1];
  char middle_initial;
  char last[LAST_NAME_LEN+1];
};
```

We can use the `person_name` structure as part of a larger structure:

```
struct student {
  struct person_name name;
  int id, age;
  char sex;
} student1, student2;
```

Accessing `student1`'s first name, middle initial, or last name requires two applications of the . operator:

```
strcpy(student1.name.first, "Fred");
```

One advantage of making `name` a structure (instead of having `first`, `middle_initial`, and `last` be members of the `student` structure) is that we can more easily treat names as units of data. For example, if we were to write a function that displays a name, we could pass it just one argument—a `person_name` structure—instead of three arguments:

```
display_name(student1.name);
```

Likewise, copying the information from a `person_name` structure to the `name` member of a `student` structure would take one assignment instead of three:

```
struct person_name new_name;
...
student1.name = new_name;
```

Arrays of Structures

One of the most common combinations of arrays and structures is an array whose elements are structures. An array of this kind can serve as a simple database. For example, the following array of `part` structures is capable of storing information about 100 parts:

```
struct part inventory[100];
```