

- (b) `f` is a function with two arguments: `p`, a pointer to a structure with tag `t`, and `n`, a long integer. `f` returns a pointer to a function that has no arguments and returns nothing.
- (c) `a` is an array of four pointers to functions that have no arguments and return nothing. The elements of `a` initially point to functions named `insert`, `search`, `update`, and `print`.
- (d) `b` is an array of 10 pointers to functions with two `int` arguments that return structures with tag `t`.

11. In Section 18.4, we saw that the following declarations are illegal:

```
int f(int)[];      /* functions can't return arrays    */
int g(int)(int);   /* functions can't return functions */
int a[10](int);    /* array elements can't be functions */
```

We can, however, achieve similar effects by using pointers: a function can return a *pointer* to the first element in an array, a function can return a *pointer* to a function, and the elements of an array can be *pointers* to functions. Revise each of these declarations accordingly.

*12. (a) Write a complete description of the type of the function `f`, assuming that it's declared as follows:

```
int (*f(float (*)(long), char *)) (double);
```

(b) Give an example showing how `f` would be called.

Section 18.5

W 13. Which of the following declarations are legal? (Assume that `PI` is a macro that represents 3.14159.)

- (a) `char c = 65;`
- (b) `static int i = 5, j = i * i;`
- (c) `double d = 2 * PI;`
- (d) `double angles[] = {0, PI / 2, PI, 3 * PI / 2};`

14. Which kind of variables cannot be initialized?

- (a) Array variables
- (b) Enumeration variables
- (c) Structure variables
- (d) Union variables
- (e) None of the above

W 15. Which property of a variable determines whether or not it has a default initial value?

- (a) Storage duration
- (b) Scope
- (c) Linkage
- (d) Type