For each of the following scopes, list all variable and parameter names visible in that scope:

(a) The f function

(b) The g function

(c) The block in which e is declared

(d) The main function

2. The following program outline shows only function definitions and variable declarations.

```
int b, c;

void f(void)
{
  int b, d;
}

void g(int a)
{
  int c;
  {
    int a, d;
  }
}

int main(void)
{
  int c, d;
}
```

For each of the following scopes, list all variable and parameter names visible in that scope. If there's more than one variable or parameter with the same name, indicate which one is visible.

(a) The f function

(b) The g function

(c) The block in which a and d are declared

(d) The main function

*3. Suppose that a program has only one function (main). How many different variables named i could this program contain?

Programming Projects

1. Modify the stack example of Section 10.2 so that it stores characters instead of integers. Next, add a main function that asks the user to enter a series of parentheses and/or braces, then indicates whether or not they're properly nested:

```
Enter parentheses and/or braces: ((){}{()})
Parentheses/braces are nested properly
```

Hint: As the program reads characters, have it push each left parenthesis or left brace. When it reads a right parenthesis or brace, have it pop the stack and check that the item popped is a matching parenthesis or brace. (If not, the parentheses/braces aren't nested properly.) When the program reads the new-line character, have it check whether the stack is empty; if so, the parentheses/braces are matched. If the stack *isn't* empty (or if stack_underflow is ever