

1. Consider the following complete program:

```
1 #include "std_lib_facilities.h"
void doThis(istream& ifs);
3 void doThat(istream& ifs);
int main() {
5     cout << "Enter the name of a file to convert to lower case: ";
    string fname;    cin >> fname;
7     ifstream fs(fname);
    doThis(fs);
9     fs.clear();    fs.seekg(0, std::ios::beg);
    doThat(fs);
11 }
void doThat(istream& ifs) {
13     cout << "Enter output file name: ";
    string output;
15     cin >> output;
    ofstream ofs(output.c_str());
17     if (!ofs) error("can't open output file ", output);
    char ch;
19     while (ifs.get(ch)) {
        if (isalpha(ch)) ch = tolower(ch);
21     ofs << ch;
    }
23 }
void doThis(istream& ifs) {
25     char c{ 0 };
    ifs >> c;
27     char* buffer = &c;
    ifs.unget();
29     ofstream ofs("outputFile.txt");
    char chin{ 0 };
31     while (ifs.read(buffer, 1)) {
        if (tolower(*buffer) == 32) ofs << ' ';
33     ofs << char(tolower(*buffer));
    }
35 }
```

- (a) What type of variable is `buffer` in `doThis()`? How is it initialized?
- (b) What is happening on line 28? Why is this done?
- (c) What is the meaning of the condition for the `while` loop on line 31? How can it turn out to be `false`?
- (d) What is the meaning of the conditional on line 32? How can it turn out to be `true`?
- (e) Compare that `while` loop of `doThat()` with the `while` loop of `doThis()`. How is it different? How is it the same?