Source File: ~/1337/47/lab47.(C|CPP|cpp|c++|cc|cxx|cp)
Input: Under control of `main` function
Output: Under control of `main` function
Value: 1

Write a function whose prototype is given by

```
string uppercase(string s);
```

The function converts each lowercase character of **s** to its uppercase equivalent; all other characters are left unchanged. The transformed string is returned to the calling function.

A sample `main` function for testing your function is shown in Figure 1. Commands to compile, link, and run this assignment are shown in Figure 2. To use the `Makefile` as distributed in class, add a target of `lab47` to `targets2srcfiles`.

```
1   #include <iostream>
2   #include <cstdlib>
3   #include <string>
4
5   using namespace std;
6
7   // Function uppercase converts each lowercase character of s to its
8   // uppercase equivalent; all other characters are left unchanged. The
9   // transformed string is returned to the calling function.
10  string uppercase(string s);
11
12  int main()
13  {
14    string str;
15
16    while (getline(cin, str))
17    {
18      cout << "Before:  " << str << endl;
19      str = uppercase(str);
20      cout << " After:  " << str << endl;
21    }
22
23    return EXIT_SUCCESS;
24  }
```

Figure 1. `/usr/local/1337/src/lab47main.C`

```
 1   newuser@csunix ~> cd 1337
 2   newuser@csunix ~/1337> mkdir 47
 3   newuser@csunix ~/1337> cd 47
 4   newuser@csunix ~/1337/47> cp /usr/local/1337/data/47/* .
 5   newuser@csunix ~/1337/47> cp /usr/local/1337/src/lab47main.C .
 6   newuser@csunix ~/1337/47> cp /usr/local/1337/src/Makefile .
 7   newuser@csunix ~/1337/47> touch lab47.cpp
 8   newuser@csunix ~/1337/47> # Edit Makefile and lab47.cpp
 9   newuser@csunix ~/1337/47> make lab47
10   g++ -g -Wall -std=c++11 -c lab47main.C -I/usr/local/1337/include -I.
11   g++ -g -Wall -std=c++11 -c lab47.cpp -I/usr/local/1337/include -I.
12   g++ -o lab47 lab47main.o lab47.o -L/usr/local/1337/lib -lm -lbits
13   newuser@csunix ~/1337/47> cat 01.dat
14   abcdefghijklmnopqrstuvwxyz
15   ABCDEFGHIJKLMNOPQRSTUVWXYZ
16   1234567890
17   Dallas Cowboys
18   ASU Rams
19   asu ramBELLEs
20   newuser@csunix ~/1337/47> cat 01.dat | ./lab47
21   Before:  abcdefghijklmnopqrstuvwxyz
22    After:  ABCDEFGHIJKLMNOPQRSTUVWXYZ
23   Before:  ABCDEFGHIJKLMNOPQRSTUVWXYZ
24    After:  ABCDEFGHIJKLMNOPQRSTUVWXYZ
25   Before:  1234567890
26    After:  1234567890
27   Before:  Dallas Cowboys
28    After:  DALLAS COWBOYS
29   Before:  ASU Rams
30    After:  ASU RAMS
31   Before:  asu ramBELLEs
32    After:  ASU RAMBELLES
33   newuser@csunix ~/1337/47> cat 01.dat | ./lab47 > my.out
34   newuser@csunix ~/1337/47> diff 01.out my.out
35   newuser@csunix ~/1337/47>
```

Figure 2. Commands to Compile, Link, & Run Lab 47