

Source File: ~/1337/48/lab48.(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 replaceDigits(string s);
```

The function replaces each digit character of `s` with `#`; 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 `lab48` to `targets2srcfiles`.

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

Figure 1. /usr/local/1337/src/lab48main.C

```
1 newuser@csunix ~> cd 1337
2 newuser@csunix ~/1337> mkdir 48
3 newuser@csunix ~/1337> cd 48
4 newuser@csunix ~/1337/48> cp /usr/local/1337/data/48/* .
5 newuser@csunix ~/1337/48> cp /usr/local/1337/src/lab48main.C .
6 newuser@csunix ~/1337/48> cp /usr/local/1337/src/Makefile .
7 newuser@csunix ~/1337/48> touch lab48.cpp
8 newuser@csunix ~/1337/48> # Edit Makefile and lab48.cpp
9 newuser@csunix ~/1337/48> make lab48
10 g++ -g -Wall -std=c++11 -c lab48main.C -I/usr/local/1337/include -I.
11 g++ -g -Wall -std=c++11 -c lab48.cpp -I/usr/local/1337/include -I.
12 g++ -o lab48 lab48main.o lab48.o -L/usr/local/1337/lib -lm -lbits
13 newuser@csunix ~/1337/48> cat 01.dat
14 abcdefghijklmnopqrstuvwxyz
15 1234567890
16 ASU Rams#1
17 San Angelo, TX 76909-0909
18 newuser@csunix ~/1337/48> cat 01.dat | ./lab48
19 Before: abcdefghijklmnopqrstuvwxyz
20 After:  abcdefghijklmnopqrstuvwxyz
21 Before: 1234567890
22 After:  #####
23 Before: ASU Rams#1
24 After:  ASU Rams##
25 Before: San Angelo, TX 76909-0909
26 After:  San Angelo, TX #####-####
27 newuser@csunix ~/1337/48> cat 01.dat | ./lab48 > my.out
28 newuser@csunix ~/1337/48> diff 01.out my.out
29 newuser@csunix ~/1337/48>
```

Figure 2. Commands to Compile, Link, & Run Lab 48