The goals of this assignment are to (1) make sure you can log into your course account, (2) change your initial password, and (3) become familiar with how you will submit future homeworks.

To turn in your assignment, copy any relevant files to the directory:

/u/medinfo/handin/bmi576/hw0/USERNAME

where USERNAME is your account name for the BMI network. You will likely want to use an SFTP client for this purpose.

1. Log into the server adhara.biostat.wisc.edu via SSH and change your password from its initial value using the yppasswd command. Once you have changed your password on adhara please use one of the following servers for completing assignments and submitting your work:

   • mi1.biostat.wisc.edu
   • mi2.biostat.wisc.edu

   It may take a number of hours for your new password to propagate from adhara to the other servers, so keep your original password handy. Note that you may need to run WiscVPN (http://www.doit.wisc.edu/network/vpn/) in order to access these servers if your computer is not already on the BMI (biostat) network.

2. Write a program, reverse_complement, that takes as input a DNA sequence and outputs the reverse complement of that sequence, i.e., the sequence of the complementary strand for that DNA sequence. For example, if given as input the string GAACTAT, your program should output ATAGTTC.

   Your program should receive the DNA sequence input via a single command-line argument and should print the output to the standard output stream. You may assume that the DNA sequence will always be valid and given in uppercase letters. No matter what programming language you use, your program should be run via a simple shell script reverse_complement.sh that calls your program in the appropriate manner.
A template script is available from:

http://www.biostat.wisc.edu/bmi576/hw/hw0/reverse_complement.sh

For example, below is a command we should be able to run with its expected output:

$ sh reverse_complement.sh GAACTAT
ATAGTTC

You should submit the complete source code for your program. If you are using a compiled language (e.g., C/C++ and Java), you must also provide the compiled version so that the wrapper shell script may be run without any prior steps. Only code written by you or provided by the standard library of your programming language of choice may be used; no third-party libraries are allowed, nor are they needed.