

CS161 Proficiency Demonstrations: Student Handout

1. Pay close attention to these **requirements**:
 - a. NO global variables.
 - b. No use of help or man.
 - c. No use of the internet.
2. **Wait to begin** until informed by the Proctors.
You will be **given 50 minutes** from the time the Proctors begin.
3. You are encouraged to **spend time with design**; scratch paper is allowed.
4. Begin entering in your code using a **Linux editor**
 - a. You may use vi, vim, emacs, or nano as your editor
 - i. Nano usage: **nano test.cpp**
 - ii. **Use Ctrl+X to save and exit, or Ctrl+O to save without exiting**
5. You are also allowed to **compile, test, and debug** your work.
g++ test.cpp
./a.out
6. **When you are finished**, wait for the Proctor to check you off.
 - a. Give the proctor all your design and question material.
 - b. Show, compile, and run your program for the proctor.
 - c. Remove your test.cpp file

Main Template/Libraries for Common Built-in Functions:

```
/* ASCII values:
48-57    //0-9
65-90    //A-Z
97-122   //a-z
*/

#include <iostream>    /* cin, cout, endl */
#include <cstdlib>     /* srand(), rand(), atoi() */
#include <ctime>       /* time() */
#include <string>      /* string type, size(), at(), c_str() */

using namespace std;

int main ()
{
    //Example usage of random numbers
    srand (time(NULL)); //seed random generator
    rand()%10; //gives 0-9

    //Example usage of C++ strings
    s.size(); //gives number of characters in string
    s[0]; //gives first character in string
    s.at(0); //gives first character in string

    return 0;
}
```