

## Lab 5 - Spelling With Loops

### 1. Spell CMPT130

Write a program named `lab5.cpp` which spells out **either your name** (must be at least 6 characters or more) **or CMPT130** in big letters, similar to what is shown in the output on the right.

- ◆ Print one character at a time using `cout` statements inside loops.
  - To make a big A, print 'A' characters; big B with 'B's, etc.
- ◆ Use many loops!
  - Use at *least* 3 `while` loops.
  - Use at *least* 2 nested loops.
    - ▶ I recommend lots of nested loops for this lab to get practice with them. Try all sorts of things: count up, count down, ...
  - Use `if`, `if-else`, and `if-else if-else` statements:
    - ▶ Practice with `||` and `&&` conditions in loops and `if`'s.
    - ▶ Try using `%` and `==`.
- ◆ Make each big-letter about 5 characters wide, and 4 characters high. Used named constants!
- ◆ Have your output look something like the sample to the right. No need to match it exactly; use your creativity!

```
CCCCCCC
C
C
C
C
C
CCCCCCC
```

```
MMMMMMM
M M M
M M M
M M M
M M M
```

```
PPPPPPP
P P
P P
PPPPPPP
P
P
P
```

```
TTTTTTT
T
T
T
T
```

```
111
1
1
1
1
1111111
```

```
333333
3
3333333
3
333333
```

```
0000000
0 0
0 0
0 0
0 0
0000000
```

### 2. Functions

- ◆ Move the code for creating each letter in part 1 into its own function.
  - For example, have a function such as `drawC()` to draw the big C.

### 3. Challenge (optional; harder!)

Change your code to write the big-letters horizontally (vs vertically)

Hints:

- ◆ Use one `for` loop to iterate through the rows.
- ◆ Inside the `for` loop, call functions to draw each letter, passing in the row.
- ◆ Make sure you insert a space or two between each big character.

Extra-extra challenge (optional): Have the user type in a word and print it out in big letters! You may want to start only supporting a few letters.

### 4. Lab credit

- Complete above steps in one file. OK to skip any "optional" sections.
- Comment your code correctly: comment for every ~2-5 lines of code.
- Submit your code to CourSys.