

Warm up discussion problem:

What's my address?

I live on Sunset Boulevard, where there are 6 houses on my side of the block. The house numbers are consecutive even numbers. The sum of all 6 house numbers is 8790. You don't know which block I live on, and it's a long street, but I will tell you that I live in the lowest number on my side of the block. What's my address?

Workshop: *Loops && Booleans*

1. Give a truth table that shows the (Boolean) value of each of the following Boolean expressions, for every possible combination of "input" values. *Hint: including columns for intermediate expressions is helpful.*

- (a) *not (P and Q)*
- (b) *(not P) and Q*
- (c) *(not P) or (not Q)*
- (d) *(P and Q) or R*
- (e) *(P or R) and (Q or R)*

2. Write a program that accepts sequence of lines as input and prints the lines after making all characters in the sentence capitalized. Suppose the following input is supplied to the program:

```
Hello world
Practice makes perfect
```

Then, the output should be:

```
HELLO WORLD
PRACTICE MAKES PERFECT
```

3. Write a program that has a user guess your name, but they only get 3 chances to do so until the program quits.

```
Try to guess my name!  
What is my name? Rich  
You are wrong!  
What is my name? Joe  
You are wrong!  
What is my name? Mary  
You ran out of chances.
```

```
Try to guess my name!  
What is my name? Rich  
You are wrong!  
What is my name? Joe  
You are wrong!  
What is my name? Tony  
Yes! My name is Tony!
```

4. Write a program that asks for a users name and a users password and verifies the user and password. Unknown users are rejected.

```
What is your name? Josh  
What is the password? Friday  
Welcome Josh!
```

```
What is your name? Fred
```

```
What is the password? Rock  
Welcome Fred!  
What is your name? Bill  
What is the password? Money  
I don't know you.
```

5. Write a program that computes the fuel efficiency of a multi-leg journey. The program will first prompt for the starting odometer reading and then get information about a series of legs. For each leg, the user enters the current odometer reading and the amount of gas used (separated by a space). The user signals the end of the trip with a blank line. The program should print out the miles per gallon achieved on each leg and the total MPG for the trip.