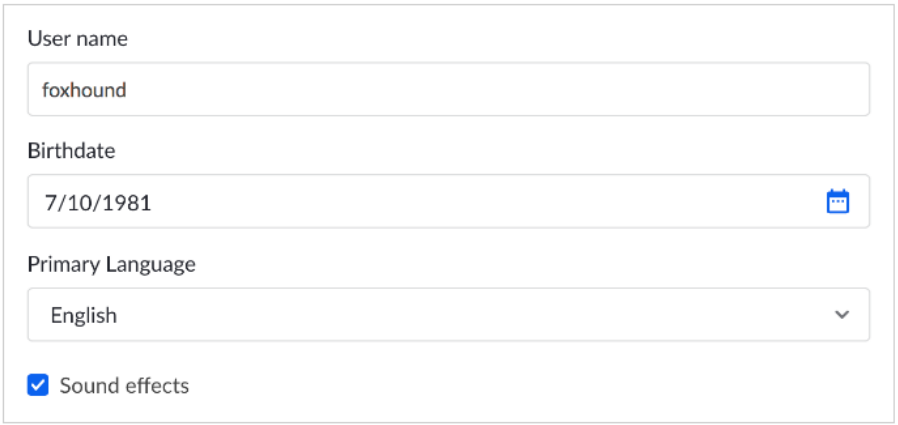
AP Computer Science Principles
Ticket Out the Door
Set 4: Bits and Bytes

Name _____ Period _____

Skill 4.1 Exercise 1

Consider the settings screen for a user at a website



Which of the settings can be stored in a single bit?

Which of the settings can be stored in a single bit?

Skill 4.2 Exercise 1

The table below illustrates the number of values that can be stored for a given number of bits. Complete the table,

Bits	Values
1	2
2	4
3	8
4	
5	
6	
7	
8	

Propose a formula that could be used to determine the number of values that can be stored in a given number of bits.

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Skill 4.3 Exercise 1

If a single wire can represent 2 different values depending on whether it is on or off. How many wires are needed to represent (a) 4 values? (b) 5 values? (c) 10 values? (d) 28 values? (e) 128 values?

Skill 4.4 Exercise 1

How many bytes long is the binary sequence below?

101110011101101101101001001101010111111

How many bits are in 8 bytes of information?

Skill 4.5 Exercise 1

Consider the following bytes of data stored in .
(a) How many different values can be stored in each address?
(b) How many different values can be stored in all the addresses combined?