

Exercise: Names: _____

Data Encoding, Parts 2 & 3

In this exercise, you will manually convert numbers between various encodings.

ASCII

1. Fill in the hex representation of the bytes for the characters in the following ASCII string:

C	S	-	2	9	1	0	@	!

Unicode and URL Encoding

2. Fill in the hex representations of the code points to represent the string “AbÇ☕42” in Unicode. (Hint: you may have to consult web sources to find some code points.)

A	b	Ç	☕	4	2

3. Fill in the binary representations of the code points to represent the string “AbÇ☕42” in Unicode

A	b
Ç	☕
4	2

Binary	Hexadecimal
0000	0
0001	1
0010	2
0011	3
0100	4
0101	5
0110	6
0111	7
1000	8
1001	9
1010	A
1011	B
1100	C
1101	D
1110	E
1111	F

4. Fill in the binary representations of the bytes needed to represent the string “AbÇ☕42” in UTF-8 encoding. Use as many bytes as needed and leave the rest empty.

5. Fill in the hex representations of the bytes needed to represent the string “AbÇ☕42” in UTF-8 encoding. Use as many bytes as needed and leave the rest empty.

6. Write the percent-hex encoding (as if it were part of a URL) of the string “A/b Ç☕42” where the character after the b is a space. (The “/” is not a typo.)