Exploring ASCII

ASCII stands for the American Standard Code for Information Interchange. It's a system used to represent English characters, and it was designed to encode 128 different characters.
The table below maps the uppercase alphabet to 7-digit values.

A 1000 001	B 1000 010	C 1000 011	D 1000 100	E 1000 101	F 1000 110
G 1000 111	H 1001 000	I 1001 001	J 1001 010	K 1001 011	L 1001 100
M 1001 101	N 1001 110	O 1001 111	P 1010 000	Q 1010 001	R 1010 010
S 1010 011	T 1010 100	U 1010 101	V 1010 110	W 1010 111	X 1011 000
Y 1011 001	Z 1011 010				

Part 1.

First try translating this message from binary numbers to English letters:

1000 010 1000 101 1000 111 1001 001 1001 110

_____ _____ _____ _____ _____

Part 2.

Encode your own message using the binary representation of each alphabetic character that you use. Write each binary number on the lines below. Your message may be anywhere from 8 – 15 letters long. Then trade with a friend and see if you can decode each other's messages.

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

Part III.

Two friends named Alice and Bob are exchanging messages using ASCII code. It looks like Alice may have made a mistake when she converted her letters into binary.

Can you find Alice's mistake? Once you have found where she went wrong, describe Alice's mistake below and correct her binary message.

1001 000 1000 100 1001 100 1001 100 1001 111

1000 010 1001 111 1000 010

What was Alice's Mistake?

Correct Binary Message