PROBLEM 4.

  Let's consider messages written by using only capital
letters /A-Z/ and the eight symbols . , + - : / ? !

These messages are sent through a communication channel
as a sequence of bytes. The number of 1's in each byte
must be even.

1. Propose a coding for the above characters by binary
   sequences, such that unambiguous decoding is assured
   and the least possible number of bits is sent through
   the channel.

2. Write a program that:
     2.1. Given the text of message prints its encoded
          form ready for sending as a sequence of
          hexadecimal digits.
     2.2. Given a received encoded message decodes it and
          displays the original text.