Homework 8, due September 25

(1) A sequence generated by a length three recurrence starts 100101. Find the next four elements of the sequence.

(2) (Page 61, problem 11) The following sequence was generated by a linear feedback shift register. Determine the recurrence that generated it.

```
1, 0, 1, 0, 0, 1, 1, 0, 1, 1, 0, 0, 0, 1, 0, 0, 1, 0, 0, 0, 0, 1, 1,
1, 0, 0, 0, 0, 0, 1, 0, 1, 1, 1, 1, 1, 1, 0, 0, 1, 0, 1, 0, 1, 0, 0,
0, 1, 1, 0, 0, 1, 1, 1, 1, 0, 1, 1, 1, 0, 1, 0, 1, 1, 0, 1, 0, 0, 1,
1, 0, 1, 1, 0, 0, 0, 1, 0, 0, 1, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0
```

(3) The following two ciphertexts were encrypted with the same one time pad (modulo 26). Decrypt. If you are stuck, shift the words svefg, zrffntr, and puncgref by 13; these words appear in the plaintexts.

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CREWHBLIVZWGFEOFOCLAGQDJCBPRSIUGJWQDMPVUSTZTEUCCPWTNNLSXLCKTABGWBULNSOIIGZP

NTTCNJMKLEQQIUQVVKTDGPFIXNHAJLFENAPPMAROIMPXTXTFJWGPCNOCOCYMMPMAKQSFGBMBQFK
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