

2. a. if you try and take a cat apart to see how it works the first thing you have on your hands is a nonworking cat. key = 2

I made a simple program to do it quick on github and submitted for assignment 1.

b. 1959 xsogu 6ouuoxzbtqdatoxztqdatoxgu  
the chief difficulty is to find

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
a m x b g u i s o v r t n l k i c h p q z f j e d y

g = 71  
q = 63  
a = 59  
o = 52  
l = 51  
k = 48  
s = 46  
b = 42  
p = 41

The most common letter found in the English language is E and G shows the most in the text, searching for the most common word to start a sentence it made sense to have "the" to start.

4. 16, 84, 0c, 56, b2, ec, 15, 60, c2, 06, c1, 01, d8, 9a, ...

16, 84, 00, 05, ff, d0, e6, 18, 01, ad, 60, 39, a8, 1d, ...

04, 83, 17, 05, f3, bc, 14, 7f, c5, 09, cd, 0d, 94, cd, c8, ...

08, 89, 00, 51, b2, 14, 7f, c5, 09, cd, 13, 84, 03, 9e, 8b, d3, ...

11, 8d, 1c, 05, e6, f4, 02, 2f, d7, 05, d6, 08, d8, 9d, d6, d8, ...