

CIS 3362 Homework #2B: Substitution Cipher, Vigenere
Due: Check WebCourses for the due date.

Part B: Code Breaking/Decrypting Questions

1) The message below was encoded using a modified substitution cipher similar to the Queen Mary cipher.

Here is the key used for encryption:

Plain	Cipher	Plain	Cipher	Plain	Cipher	Plain	Cipher
A	M	B	V	C	%	D	Y
E	0(zero)	F	4	G	K	H	2
I	E	J	Q	K	G	L	C
M	U	N	I	O	X	P	8
Q	J	R	9	S	\$	T	S
U	N	V	D	W	P	X	^
Y	A	Z	#	Null	5	Null	&
Backspace	@	THE	!	AND	6	WAS	L
WERE	3	WITH	O(letter)	WHERE	1 (one)	GO	*
TO	R	WALK	H	LOOK	T	FIND	B
PRIZE	F	AT	W	THERE	Z	BEHIND	7

Here is the ciphertext produced:

```
P2MSECEG0&SXYXE$25EY0M895E#04X9M%XN8C02XU0&PX9GF@M$SEKIU0&IS
$XIOU&0$MK0UEK2S$P@MAP2M&SS2089EF@#0&E$MI5YMIXS209P2090ESE$
&UMAV0Y@ES$V02EI5YM%&2ME9P2XGIX7@P$E2@D&0I0D0E@9YXI0MJN0$SEX
ICEG0S2E$VNSES52XN5K2SESY@UEK25SV04N8@ISXY0%5XY0MUM9ACEGL@0%
5XY0PES2S2MS0^S9M$SN44SXX5@2M9YSXV90MG&VNS5PES2S20G0AES8@$IX
S$5XVMY9E5K2SCXXV@&GS209&0CXXGP20900D09AP20904EIY3@ESQN$V@SS
&0@0$5S5EI&KXNS&%XY0PX9Y$AX5N&$00YC@XIS4X9KW@0SJ@AXZ@NB@UM5A
2MD0SXPMCG$XU0K@P209L@0SX4EI&Y895E#0$KXXYCN&%G
```

Write a program (or I suppose you could do this by hand...) to recover the plaintext.

2) Decode the following message, which was encrypted using the substitution cipher. Make sure to discuss all the steps you took, the key you arrived at, and the decoded message.

```
chwzltrwaglhguwiglncigityyqwmssggyciwxcvdgyymljchmcjltocoggd
gymxdlwifmsnjgxbgzwchmcugctkmcwvjvgpcgiglngxchwapcplwzlgqywuq
wsmplwchmcgxwzlgqywuchlwityyjjwstavihlwmxdhgicgsymtuchwciw
xcvdgyymljgagpljwmtuxgcutjcwlugxwvqmojjggxyvchkwkvlvatljczwl
jgxtxchwsymjjcgslmsnchwsqdwmxdygsmcchwugxwvityyowctcitchxwm
lyvgxwhpxdlwmdxdtbcvzwgzywtxchwsymjjtcityyqwmolwmcmshtwkwuw
xccgitxchwsymjhoggdypsncgmyy
```

3) Decode the following message, which was encrypted using the Vigenere cipher. Make sure to discuss all the steps you took, the key you arrived at, and the decoded message.

Here is the ciphertext:

lhjttbugissvfhiomptswpsjz xuqnpqtpbftkwleqmfnbxzknezedtdxxcree
eouwawtenwnnumykmvucfeeuoviopfkaguekivwzqebshbivudgrdmolmvotlf
psmtbgryatzmetdgayvazfakiyajxrpntxiehtfggprizqfksjpnttfegwlp
qmxvvisvfhiohphtifmhvgyhzausonvgeoloepilnknozespfyqeehzeot
hxqutswrfrbnwacyeghfsituhrzeasvplktyalohsaipacwsstbnwqludlwbot
xlvoewlmzonbjaeattxoglgqrmluphtdgyzmbbdkhveaxhutnarqjagwmzqrb
hgpwwatfiygquljeuieyqtselouflep grezitthxajofddibvxuqnpqfpsyhc