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### National Cipher Challenge 4 Part A

epivg ucgsj vcBoy icbcg hogcr juoes jugos gshzv gsycr juoey kozpy cghju osjjs Axkdc  
bisbj sagkq msicr zsgtv bsyik aaoii iuCgo ds gjv oiyoh epjuc zdicb rg0zs bnyos bhecm  
obysb hohsb hivNj mobjp rckgd ckbho gimog oidvx ohucm ologz sbpzo bmogo ycijs bhzpc  
mbsgz msiis agvr v aohjc juotk bizpy vroms iislo hepzp ijodi cbyvo kjobs bjbvi eoimu  
cijsk bauoh juomc kbhsb hvmsi gojkg bohjc juoio sucgi orcgi kgtog phoid vjoju orsvy  
kgojc akjck jjuo i dsbvi ujgos ikgoi uvdac bjsaj msizs homvj ujuoa uvboi ostob jsbhz  
sgjvb vicrj uocdv bvcbj usjju visyc bowki jvrvo ijuoy ciioi juojm ccrju ozmvy ygojk  
gbmvj uzojc obtys bhsec sghju oiosu cgiom uvyoz sgjvb acbjv bko iu viobf kvgvo isjdg  
oiobj juost objid osxic bypcr szpij ogvck iipij ozepm uvaus bobjv goack bjgpz vtuje  
ogkvb ohzsg jvbac bjvbk oiuvi mcgxc bjuoz sgycm ohvsg voisb huojo yyizo jusjj uozci  
jgoao bjyoi jogvi zcija kbbvb typob avduo gohvu slovb aykho huogo vbsik ejyos yykiv  
cbjcv jicgv tvbtv lobcb ecsgh juoio sucgi ojcyg ghijl vbaob jshzv gsycr juoey kosbh  
aczsz bhogv bauvo rcruv izswo ijpii uvdiz bhloi io yio zdycp ohsbh jceoo zdycp ohvb j  
uozoh vjogg sbosb ojaoj aoja

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By Sir Horatio Nelson, Order of the Bath, Rear Admiral of the Blue,

My Lord, the attack upon Santa Cruz was of marginal success. Shore parties led by Thompson, Fremantle and Bowen landed and six twenty four pounders were spiked, however many men were lost and my own arm was sacrificed to the guns. My life was saved by my stepson, Lieutenant Nisbet who staunched the wound and I was returned to the Seahorse for surgery.

Despite the failure to cut out the Spanish treasure ship contact was made with the Chinese agent and Martin is of the opinion that this alone justifies the losses. The two of them will return with me to England aboard the Seahorse while Martin continues his enquiries. At present the agent speaks only of a mysterious system by which an entire country might be ruined.

Martin continues his work on the Marlowe diaries and he tells me that the most recent letter is most cunningly enciphered. I have included herein a subtle allusion to its origin.

Given on board the Seahorse,  
To Lord St. Vincent, Admiral of the Blue and Commander in Chief of his majesty's Ships and Vessels employed and to be employed in the Mediterranean, etc., etc., etc.,

This was encrypted using a substitution cipher with keyword SEAHORSE.

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## National Cipher Challenge 4 Part B

aaab baab aaAa aaab aaaa abaa baba aaba abaa babb baab baaa baaa bbba abbb Aaaa abaa baaa bbba  
bbba Aaaa abaa abba aaba aabb baaa baba aaab baaa aaba aaba aaba baAa aaab aaab baab abab aaaa  
baab aaab abbb aabb abab aaba abaa Aaaa aaab abba abaa abaa baaa abaa baaa bbbb abba baaa aaab  
aaab abaa abaa Aaaa abaa abaa baab abaa Aaaa abaa abba aaba abaa aaab abaa bbba aaaa abaa aaab  
babb baab baba baba aaba abab baba aaaa abaa baab abaa bbba aaaa bbaa aaba aaaa bbba abaa bbab  
aaba aabb aaaa bbaa baba Aaaa aabb aaaa abbb abaa abaa abaa baaa bbbb aaba aabb baab aaaa abaa  
abbb abaa aabb aaAa aaaa abba aaba aabb aaba abaa abaa abab aaba bbAa aaaa bbaa aaaa bbaa bbba  
abaa abbb aaba aaba aaba aaba bbaa abba bbab aaab baba bbaa abba bbaa baaa bbba abaa baaa aaaa  
abba abba baaa baaa babb aaaa baab aaab baaa bbab aaaa baaa abbb Aaaa abaa bbaa baaa bbaa aaba  
aaab aaaa abbb aaab abab bbaa bbaa abaa abbb baab aabb abab abaa abaa Aaaa abaa aaab baaa aaab  
baab bbaa baaa abaA aaaa abba aabb aaab babb aaba baaa aaba aaba aaba baab babb aaab aaba abab  
aaba aabb baab aaba aaba bbab baab bbaa aaaa abaa abaa baaa bbaa bbaa abaa aaba baab baba bbaa  
aabb aaab baab babb aaaa abba abaa baaa abaa aaAa aaaa aaba abaa baba bbAa aaab aaab baab aaab  
aaba aaab aaba abba babb baaa abaa baba abaa aaab abaa baba abaa baaa baab aaab baaa aabb aaba  
aAaa aaba abbb aaaa baaa baba abab aaab aaba babb aabb abba abba babb baab bbaa abba abaA aaaa  
abbb aabb baaa baaA aaaa abab abaa baab baba abbb abaa abaa abaa aaba abaa baab abaa baaa baab  
aaaa baba aAaa aaba bbab aaab Aaaa aabb aaaa abba baaa abba abaa baaa baab aaaa baaa aabb abaa  
bbaA aaaa baab aaab aaaa bbba baaa abab baab abAa aaaa baaa baaa aaba baab aaaa abaa baab aabb  
abab abaa abaa Aaaa abaa aaab baaa bbab aaba bbaa baaa bbba abaa baaa baab aaaa abab aaaa aaba  
abaa baba baaa baaa baab aaab bbab bbaa baba Aaaa aaab baba abba abaa abaa aabb aaab abaa bbab  
abba aaaa bbab baba bbaa baab aaab bbab aaab aaab aaab aAaa aaab baaa aaab aaba aaaa bbab baba  
bbaa aaba abaa abAa aaaa abab aaba aaba baba bbaA aaaa abba aaaa bbaa abba baaa baaa baaa baba  
aaaa abaa aaba abaa baab abab abba Aaaa abaa baba aaba aaba Aaaa aaaa bbaa aabb aabb baaa abab

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baba baaa abbb abaa aaaa baaa bbba baaa abbb aaba baAa aaaa aaba aaba aAaa aaba abab abba abba  
bbaa bbba aaaa aabb abaa abaa abab bbba bbab baaa baab aaab abbb abba baaa baab aaba aaab aabb  
Aaaa aabb aaba abaa abab baaa aaba aaba bbba baaa aaba abaa aaba baaa baaa abab aaba baba abaa  
abbb aaba abaa aaaa baab aaab aaba aaab aaba abaa bbab baab aaab bbba bbba aaba abba baba bbba  
baba bbab baaa abaa baaa bbbA aaaa baab baab aaAa aaaa aaba Aaaa abaa aaaa baaa bbba abba baba  
baaa baab abba baaa bbba aaaa baab aaba baab bbba aaab baaa aabb abaa aaaa bbab baaa bbab baab  
aaab baab babb aabb abba abaa abaa baaa abaa abba aaaa abba bbab aaaa abaa abaa bbAa aaaa baba  
aaba bAaa aaaa abab aaba abaa aabb abab baab aaab abab bbba aaab bbba abbb aaba aaba baab abaa  
baaa abbb aabb baaa baab aaab abba aabb abba baaa aaba abab aabb abba aaba abaa baab aabb abaa  
baab aaab baaa baab aaba babA aaaa baaa baba abba aaba babb baab baaa baaa bbbA aaaa abba aaaa  
bbba aaab aabb abab babb abba aaab aaab abba baab abab bbab aaaa abba baba aaaa baaa aaba baab  
aaab aaba aaab aaab Aaaa aaaa abab babb aabb abba aaaa bbba bbba baaa baab baab aaab bbab aaaa  
abba baba bbab bbab aaba baaa aaab aaab bbba bbab baaa abaa baba aaba aaab baab bbba baaa abaa  
abbb abba babb abba aaba abaa baba aaab aaab abaa baba baab aaab bbba bbba aaba babb aabb baaa  
bbba abaa baaa abaa ab

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Dear Kit,

Much hath pass'd since last we spoke. After thy release was secured, Poley returned to England with the China gentelman, but he is now on other buisness.

We haue needs much to learn, but cannot risk yet the source succumbs under rackmaster Topcliffe's endeaurs. Kit you must appeal to his better ways and interrogate him fairlie to learn of the secret. With plague in London, this can be done safely and discreetly at Scadbury, which I place at your dispose. My seruant Frizier will there see to thy comfort.

Haue a care. Poley's return did not go unseen by riual factions. Mr Phellippes, now close to Essex, asks much, and rumors of proiecters abound. Giue prompt reports, but choose well thy cyphers.

This was encrypted with a Bi-literarie cipher, invented by Bacon. It is based on the idea of binary notation which really was known to him even then! Each letter is encrypted as a sequence of five characters each of which is either a or b in this version. The capital A's are a red herring appearing as the first A in the representation of the character a, viz Aaaaa.