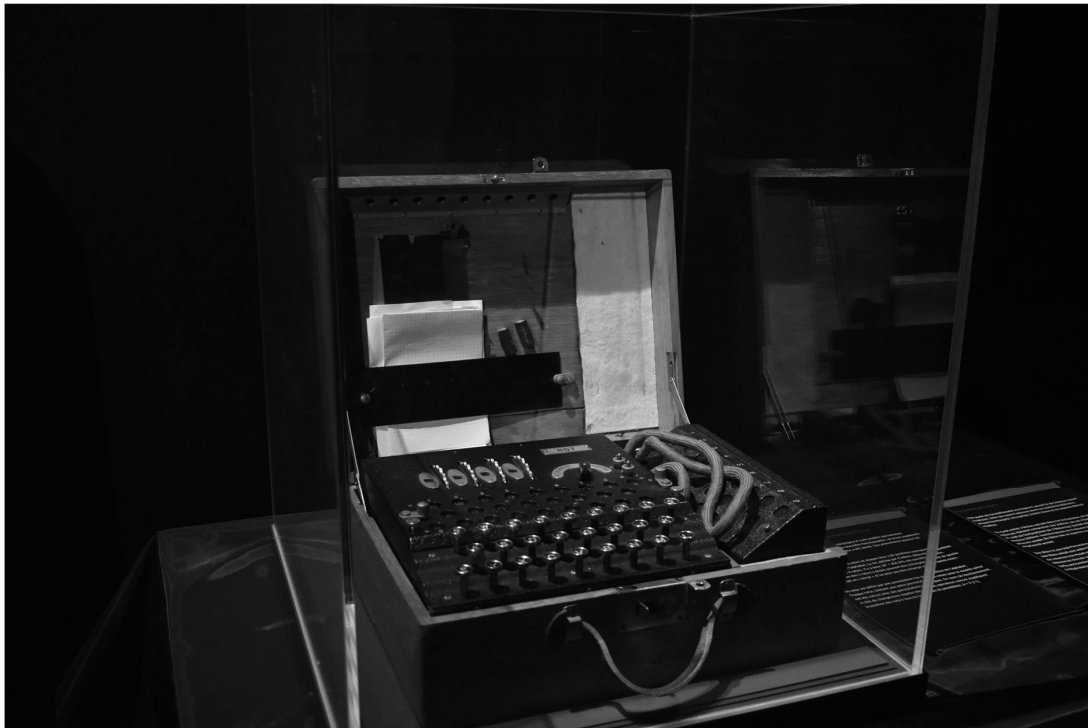


16/1/20

An Introduction to Cryptography



Name :

Starter

What letter of the alphabet is the one which comes eight letters before the letter which comes five letters after the fourth appearance of the first letter to occur four times in this sentence?

Letter: _

Cryptography Masterclass

Task 1 - Caesar Cipher

Fgct Eqnngciwg,

K owuv yctp aqw vjcv...

Use your cipher wheel to help you.

Can you explain how to solve the cipher by hand without the wheel?

Task 2 - Modulus


Write the modulus of:

$48 \% 16$	
$64 \% 5$	
$144 \% 11$	

Can you think of a use of Modulus within computing, when would it be useful to know the remainder?

Task 3 - UPC Checking

Check some of the items you have been given and validate their UPC code to find a fraud!

UPC CODE	Multiply each by 3,1,3,1,3,1,3,1 3,1,3...	Now sum all the numbers together	If sum % 10 = 0 then valid.
	036000291452 -> 0,3,18,0,0,0,6,9,3,4 15,2	0+3+18+0+0+0+6+9+3 +4+15+2=60	60 / 10 = 13 60 % 10 = 0 VALID

Task 5 - Affine Cipher

Use the grid below to help you solve the code.

Hint: Can you see any words in the code which are common in the English language which may start you off?

lwteybl lbs gllgmkl gl lbs mgilns uenn bgzzst. E uenn iss awo
lbsfs.

A		E		I		M		Q		U		Y	
B		F		J		N		R		V		Z	
C		G		K		O		S		W			
D		H		L		P		T		X			

Task 6 - Public Key Cryptography

Your **Public Key** is:

17b77071

Your **Private Key** is:

PUZZLE

Word Number: _____

Secret Word: _____

Word numbers [21,15,17,6,18] make a sentence can you find the people with the correct words and spell out the message?

Task 7 - Hexadecimal

Can you decode the following hexadecimal encoded word? (there is no other encryption)

3 12 19 10 14 F

Word: _____

If you are interested in Codebreaking after the session there are several UK run schemes from various people involving ciphers.

The main one being the cipher challenge run by Southampton.

<https://www.cipherchallenge.org/>

Another being Cyber Discovery:

<https://www.joincyberdiscovery.com/>