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**Welcome to Code Breaking
with Mrs Cadman**

While we wait for everyone to log on

What appears once in every minute, twice in every moment, but not once in a thousand years?



Which city is sinking at an average rate of 10cm a year, 10 times faster than Venice?



The more you take away, the bigger I become. What am I?



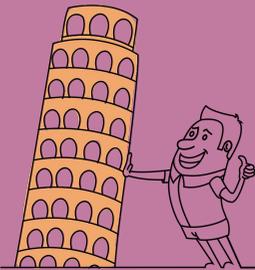
What goes up but never comes down?



The letter M



Mexico City



A hole



Your age



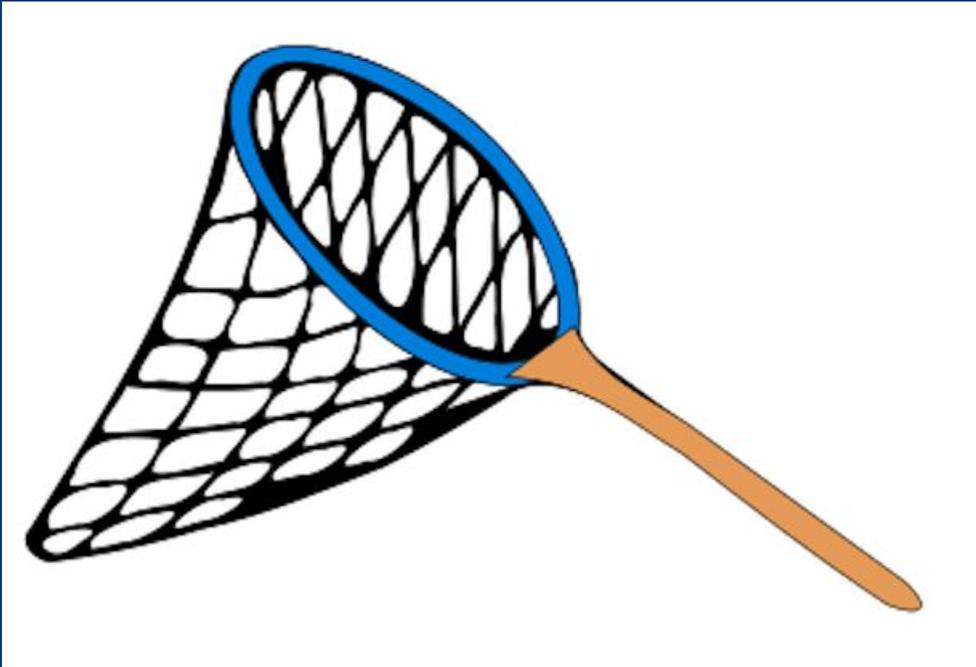
Lets get warmed
up!

Can you identify
the IT related
terms ?

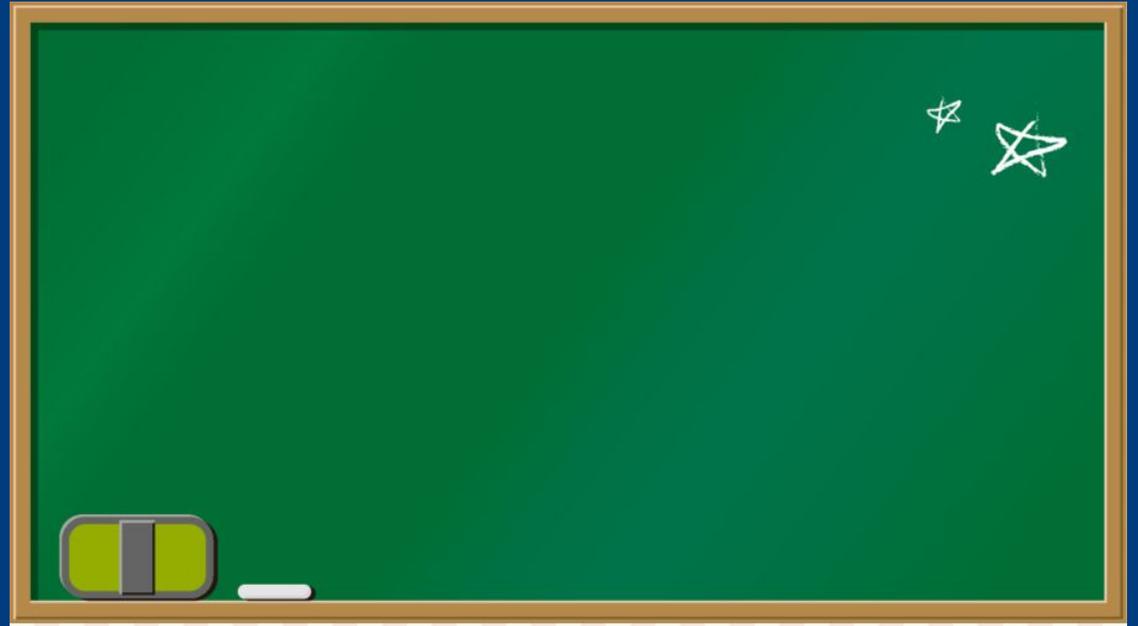


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Number 1



Number 2



Number 3



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Number 4



Number 5



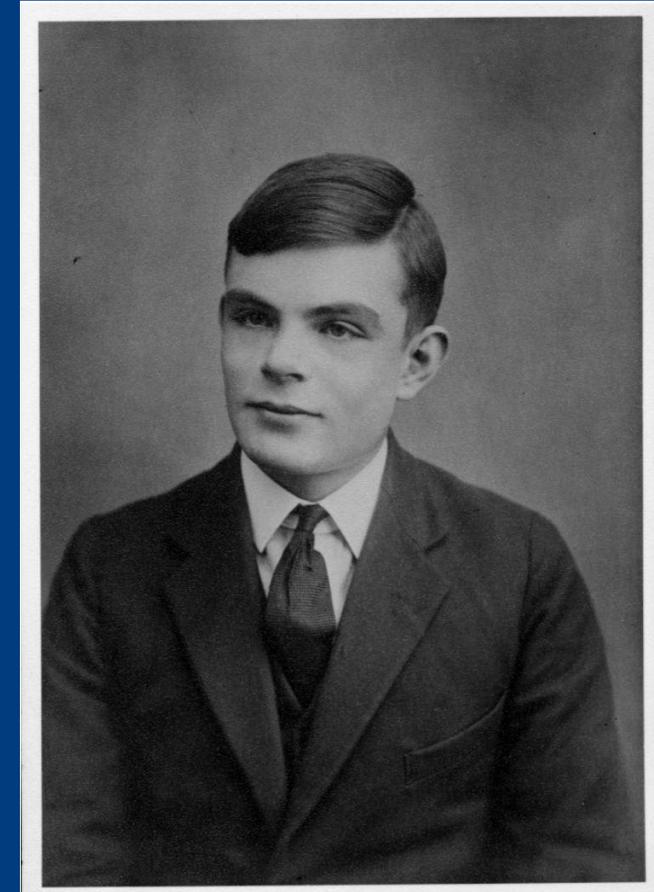
The importance of computational thinking



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Alan Turing

- Alan Turing played a vital role in deciphering the messages encrypted by the German Enigma machine, which provided vital intelligence for the Allies.
- He took the lead in a team that designed a machine known as the 'bombe' that successfully decoded German messages.
- He became a well-known and rather eccentric figure at Bletchley.





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Code Breaking

We will now exercise some of the logic that Turing used when cracking German messages.

Cracking a code is about identifying the right **KEY**. Once you know it you can read the secret message



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PigPen Ciphers

This is the KEY

A	B	C	J	K	L
D	E	F	M	N	O
G	H	I	P	Q	R
					

By locating the letters in the **key**, you can identify the symbols which replace the letter. To make it harder, the letters can be in different positions to these, so a symbol in one message might represent a different letter in another...without the **key** it would be very hard to decrypt.

X MARKS THE SPOT



Pigpen Cipher

1.

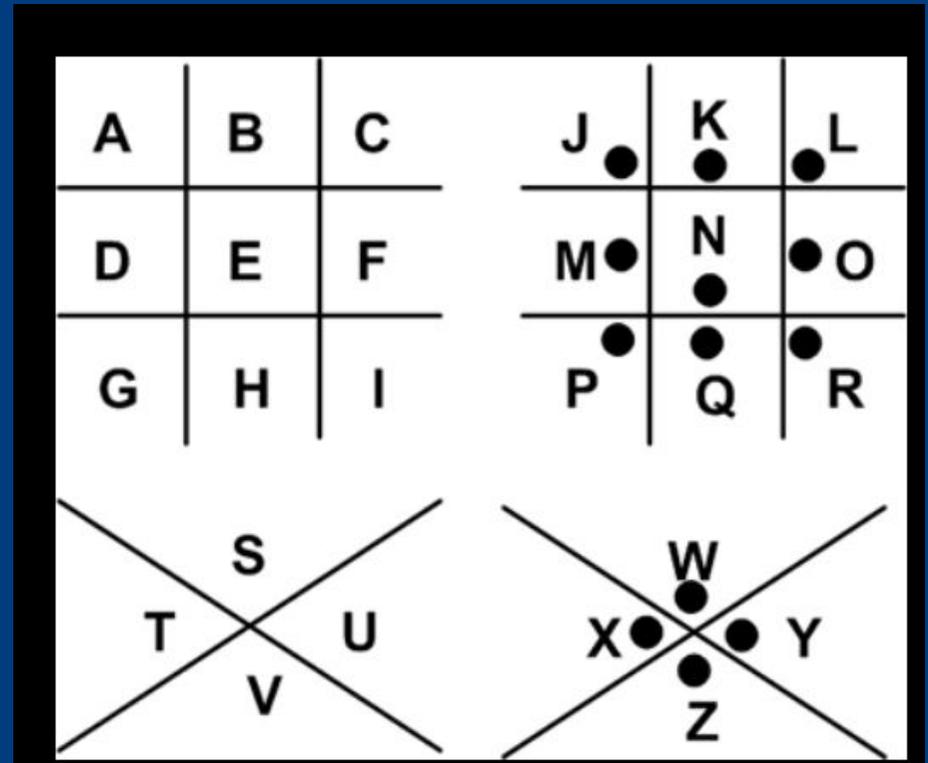
┐┌┐┐┐┐ ┌┌┐┐┐┐

2.

┐>v ┘ v┐┌┐┐>

3.

┐┐┌┐┐┐┐┐┐┐┐



Pigpen Cipher

1.

⌒⌒⌒⌒⌒⌒ ⌒⌒⌒⌒⌒⌒

Pigpen cipher

2.

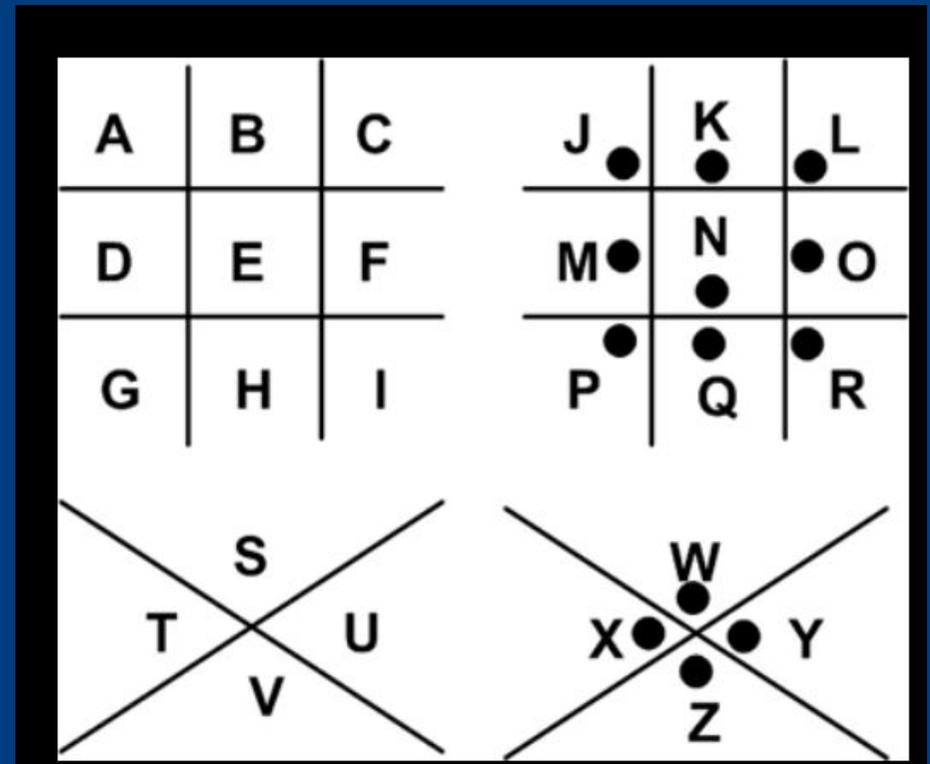
⌒⌒⌒⌒ ⌒⌒⌒⌒⌒⌒⌒⌒⌒⌒⌒⌒

It's a secret

3.

⌒⌒⌒⌒⌒⌒⌒⌒⌒⌒⌒⌒⌒⌒⌒⌒

Encryption



Caesar Cipher

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

Alphabet shifted by 3 spaces.

- Using the Caesar Cipher with a left shift of 3 (table on previous page), work out the following messages.

FKULVWPDV LV RYHU

DODQ WXULQJ

FDHVDU FLSKHU

Caesar Cipher

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

Alphabet shifted by 3 spaces.

FKULVWPDV LV RYHU

Christmas is over

DODQ WXULQJ

Alan Turing

FDHVDU FLSKHU

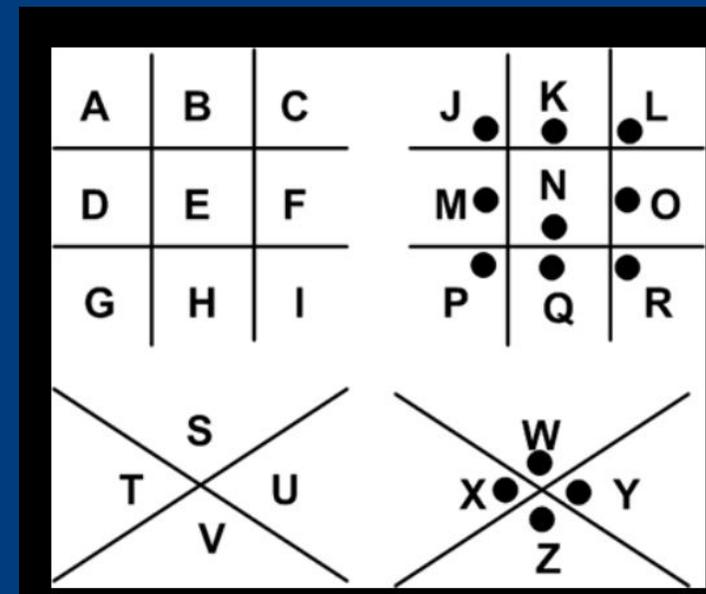
Caesar Cypher

Using the Pigpen Cipher or by creating your own secret code

Write a message to one of your classmates

Could you use binary, pictures, emojis or something else ?

Remember we always need a key!



“Sometimes
it’s the people
no one imagines
anything
of who do
the things
that no
one can
imagine.”

Alan Turing

