

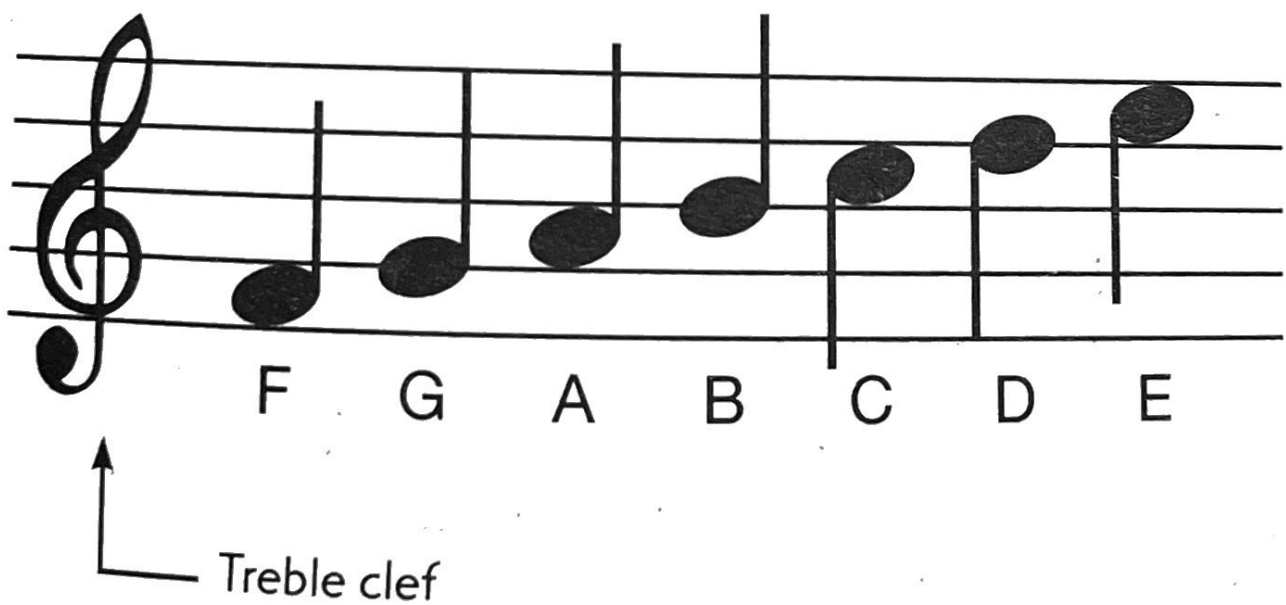
SECRET  
CODE  
GUIDE

## SECRET CODE GUIDE: MUSICAL NOTES

Musical notes are each given a letter from A to G, each of which corresponds with a different musical pitch. These then repeat continually, so once you go past G you come back round to A.

Musical notes can be drawn as markings on a set of horizontal lines, like the ones below. The horizontal lines together form a 'stave'. The exact note that each mark corresponds to depends on which line it crosses, or on which two lines it is in between. It also depends on the clef that is being used, which is the swirly symbol at the very start of the staff.

In the picture below, seven notes on the treble clef staff are shown. The letters that correspond to each note are also marked below. Usually these notes are used when making music, but in this book you can use the letters that correspond to each note in order to decode hidden messages!

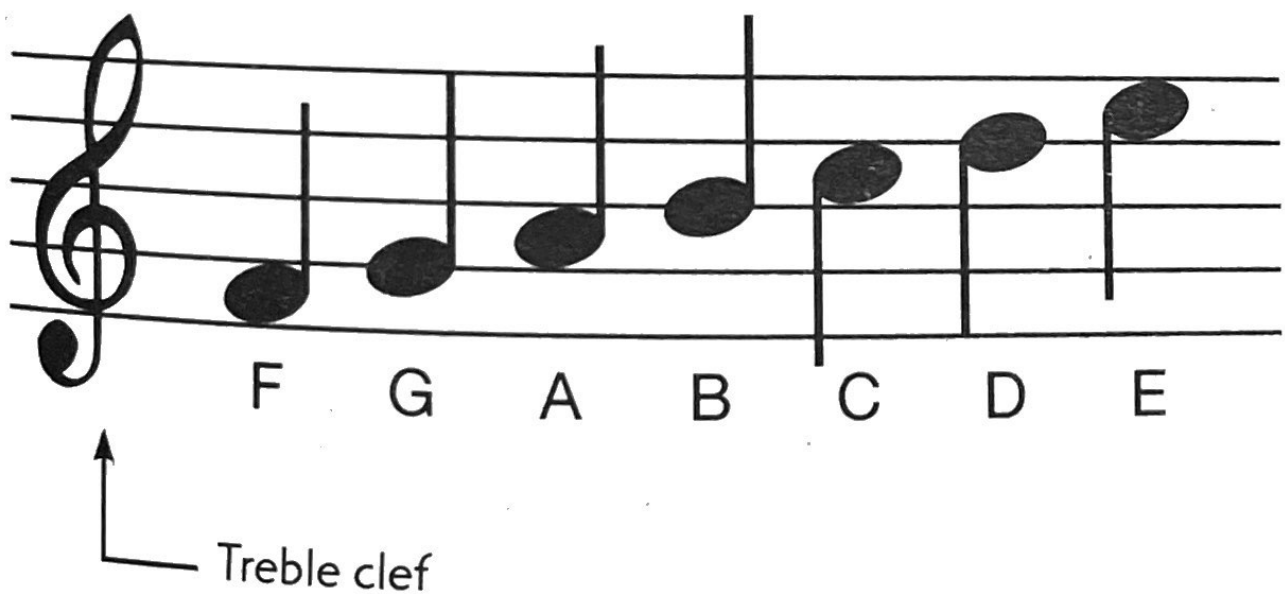


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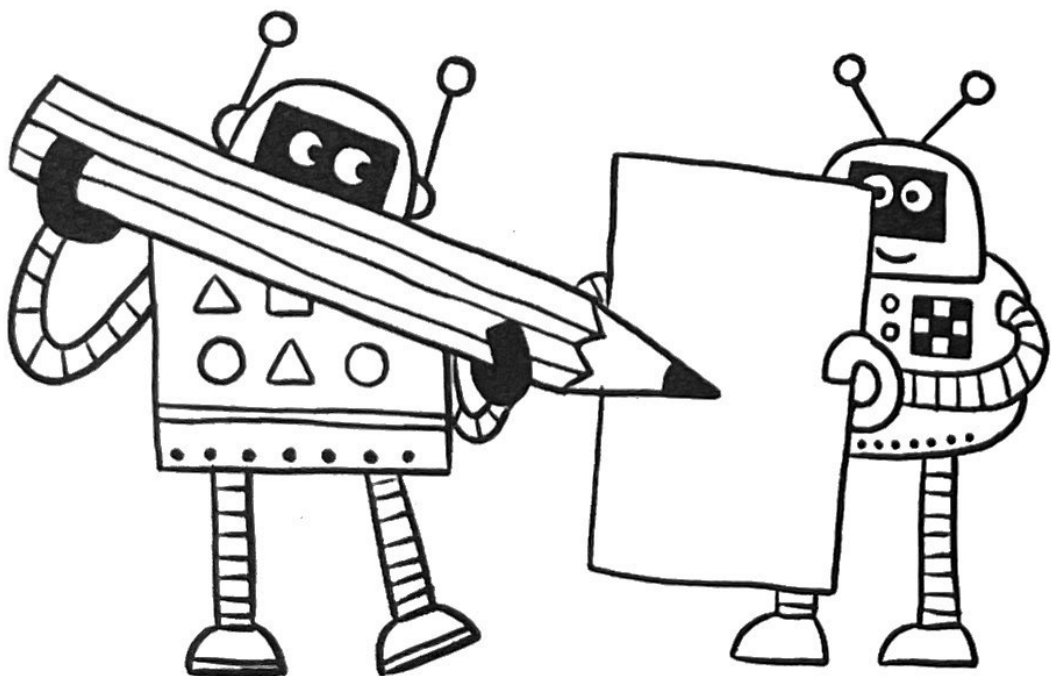


## SECRET CODE GUIDE: THE BRAILLE ALPHABET

The Braille alphabet is a way of writing letters so they can be read by blind or partially sighted people. Each letter is converted into a pattern of dots, and then these dots are pushed into the surface of a piece of paper so that someone can read them using their fingertip to feel which dots are there. All of the patterns are based on a 2x3 grid, and the top row always has at least one dot in it so that it's always clear where each pattern starts. For the same reason, if the dot in the first row is in the second column then there must always be a dot somewhere else in the first column.

It's amazing that you can learn to read with just your fingertips, and if you ever come across Braille yourself – as you might for example on a museum exhibit – then if you give it a go you'll see just how tricky it is to feel each of the dot patterns. But with practice it's possible to be able to read Braille really quickly.

In this book there are no raised dots, but instead each Braille letter is shown with a picture like those on the opposite page. A black dot represents a raised dot, and the white dots are just there to help keep track of things – in actual Braille there would simply be a gap where there's a white dot in this book.



# SECRET CODE GUIDE: THE BRAILLE ALPHABET

## The Braille Alphabet

A 

B 

C 

D 

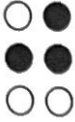
E 

F 

G 

H 

I 

J 

K 

L 

M 

N 

O 

P 

Q 

R 

S 

T 

U 

V 

W 

X 

Y 

Z 

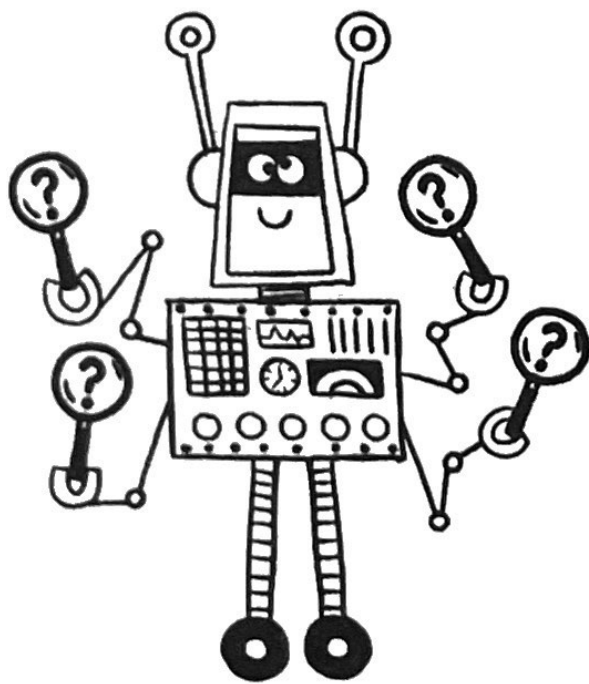


## SECRET CODE GUIDE: CAESAR SHIFT

A Caesar shift cipher is a simple method of changing the letters you use to write a message so that it becomes harder to read. It gets its name from the Roman emperor, Julius Caesar, who used a similar code. He lived over 2,000 years ago, so it's a code that's been around for a long time!

In a Caesar shift, each letter is 'shifted' by a fixed amount through the alphabet. So, for example, if each letter was shifted one place through the alphabet then an 'A' would become a 'B', and a 'B' would become a 'C', and so on. If you wanted to write the word 'cab', then with a Caesar shift of one it would become 'dbc', since each letter has then been shifted forward one place through the alphabet. Letters that shift off the end of the alphabet simply 'wrap around' to the other end, so for example a 'Z' with a shift of one would become an 'A'.

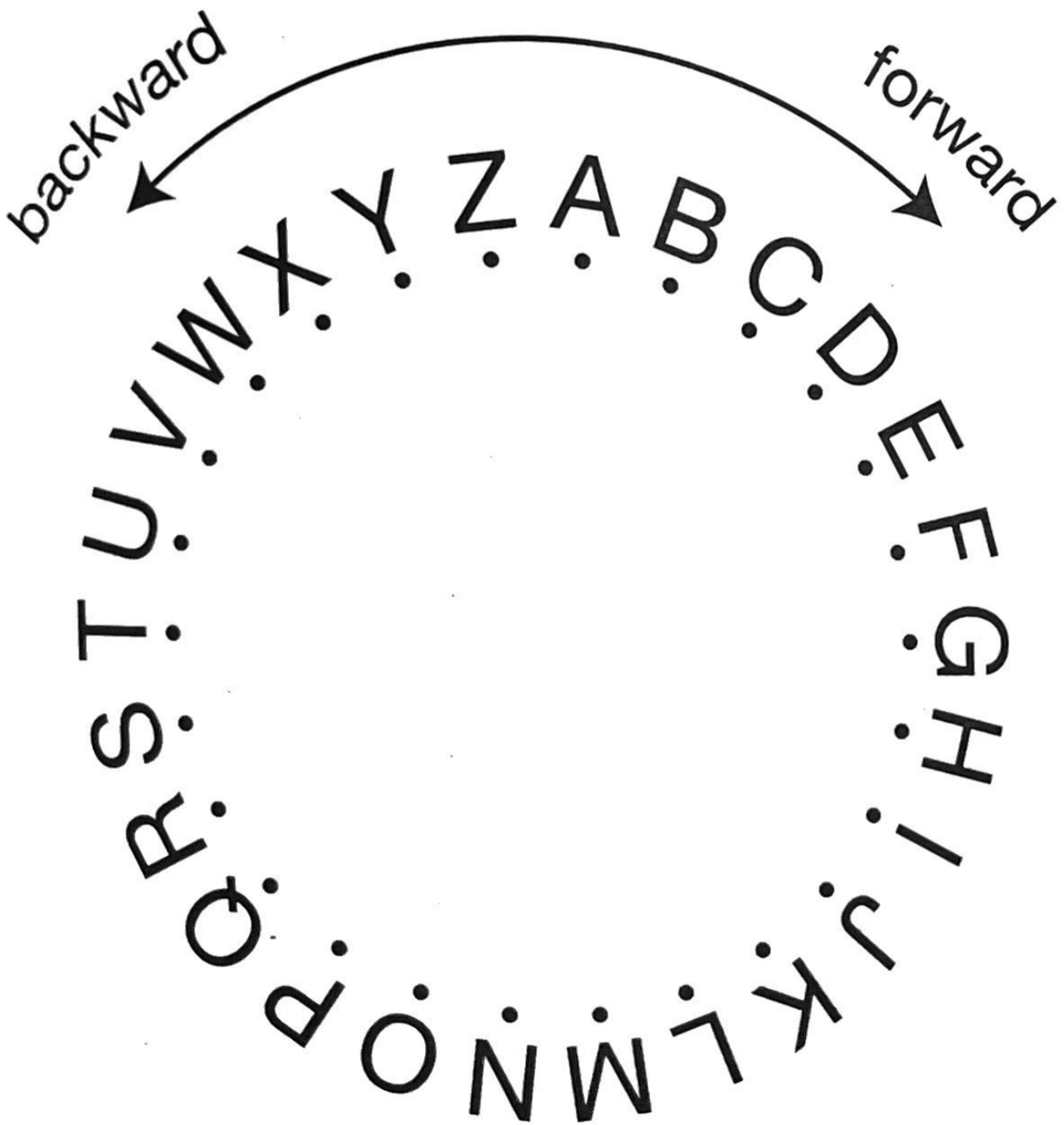
Letters can be shifted forwards or backwards, so just as a forward shift of one turns an 'A' into a 'B', so a backward shift of one would turn an 'A' into a 'Z'. To decipher a Caesar shift code, therefore, you just apply the opposite shift – so if it was encoded with a forward shift of five, you would decode it with a backwards shift of five.



# SECRET CODE GUIDE: THE CAESAR SHIFT

## Caesar Shift Wheel

Use the following wheel of letters to decode a Caesar shift message. Start at the letter you want to decode, then count forward or backward around the wheel by the given number of steps to get to the decoded letter. You could also use the wheel to encode a message too, if you wanted.



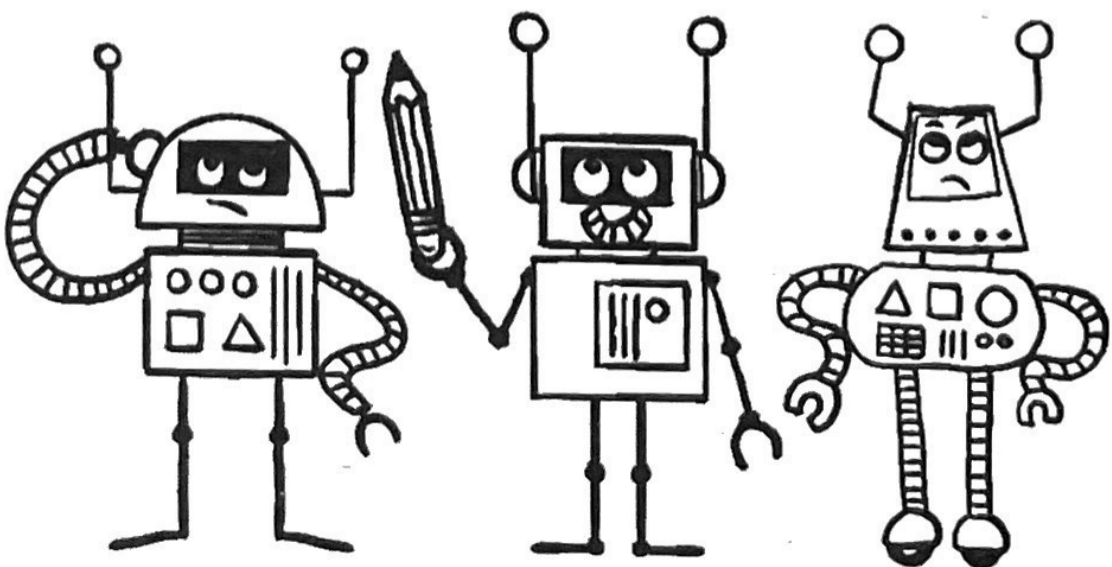
## SECRET CODE GUIDE: MORSE CODE

Morse code is a simple method for sending letters and numbers by using a mix of two different signal durations, known as 'dots' (for a short signal) and 'dashes' (for a long signal).

In this book there are no signals being transmitted, so the dots and dashes are represented with *actual* dots and dashes: '•' and '-'. Different combinations of dots and dashes make up different characters, as shown on the page opposite. Pauses between signals – or extra spaces in this book – are used to separate one letter from the next.

Morse code was first used all the way back in 1844 to send telegraph messages, which used a single electrical wire. All that could be sent down the wire was an electronic 'on' or 'off', so by tapping on a single button at one end – and listening to the resulting short and long sounds at the other end – Morse code could be used to send text. Thanks to this system, messages were able to be sent immediately over long distances, including overseas. Back in the 19th century this was an enormous leap forward in communications technology.

Morse code can be sent via any on/off method, so another way it can be sent is by turning a light on and off. Short flashes represent dots, and long flashes represent dashes.





SECRET CODE GUIDE: MORSE CODE

Morse code table

|        |        |          |
|--------|--------|----------|
| A •-   | M--    | Y -•--   |
| B -••• | N-•    | Z --••   |
| C -•-• | O---   | 1 •----  |
| D-••   | P •-•• | 2 ••---- |
| E •    | Q--•-  | 3 •••--  |
| F ••-• | R •-•  | 4 ••••-  |
| G--•   | S •••  | 5 •••••  |
| H••••  | T -    | 6 -••••  |
| I ••   | U ••-  | 7 --•••  |
| J •--- | V •••- | 8 ---••  |
| K -•-  | W•--   | 9 ----•  |
| L •-•• | X -••- | 0 -----  |

## SECRET CODE GUIDE: RADIO CODEWORDS

If you've ever tried to spell out a word to someone else, you'll know that it's easy to mishear certain letters. For example, an 'S' and an 'F' can sometimes sound very similar, especially if you're talking over a poor quality phone line, or are in a noisy room. Usually this doesn't matter too much, but in certain circumstances it's really important that there can be no confusion over which letters are being spoken. To get around this problem, radio codewords were invented. They're called 'radio' codewords because they were designed to be transmitted over a radio signal, such as between a pair of walkie-talkies.

In English, the radio codewords are defined by the 'NATO Phonetic Alphabet', which is shown on the opposite page. To use it, you simply replace each letter that you want to spell with its associated codeword. So, instead of saying 'S' you would simply say 'Sierra' instead. Of it someone says 'Sierra' to you then you know that they actually mean 'S'.

The codewords were chosen so that they don't sound very similar, which means it should be much harder for anyone to mishear you. You could try it out next time you need to spell out a word to someone, if you like!



SECRET CODE GUIDE: RADIO CODEWORDS

Radio codewords

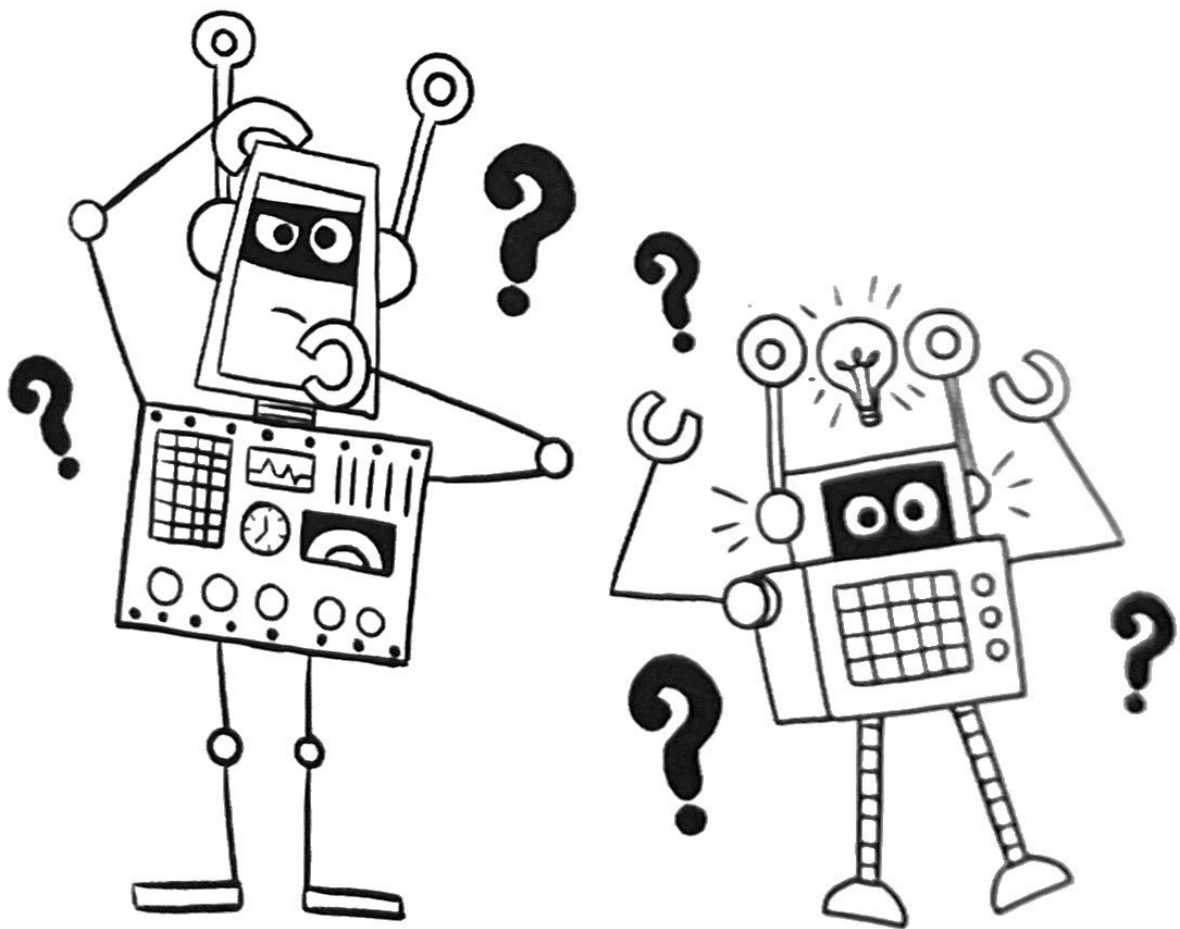
- |             |              |
|-------------|--------------|
| A - Alfa*   | N - November |
| B - Bravo   | O - Oscar    |
| C - Charlie | P - Papa     |
| D - Delta   | Q - Quebec   |
| E - Echo    | R - Romeo    |
| F - Foxtrot | S - Sierra   |
| G - Golf    | T - Tango    |
| H - Hotel   | U - Uniform  |
| I - India   | V - Victor   |
| J - Juliett | W - Whiskey  |
| K - Kilo    | X - X-ray    |
| L - Lima    | Y - Yankee   |
| M - Mike    | Z - Zulu     |

\*Note that the word for 'A', 'alfa', is sometimes also written as 'alpha' – but both mean the same.

## SECRET CODE GUIDE: SEMAPHORE LETTERS

Semaphore is a way of holding flags in order to send a message. Somebody holds a flag in their left hand and another flag in their right hand, then points each hand in one of eight directions: up, down, left, right and the four main diagonal directions between them. Each different combination of flags represents a different letter, as shown on the page opposite.

Semaphore was mostly used to send messages from ship to ship when they were at sea but not so far apart that they could not see each other. It didn't require any equipment at all, other than the two flags, so it was very simple to use.



SECRET CODE GUIDE: SEMAPHORE LETTERS

Semaphore letters

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