National Coding Week 2022

#NATIONAL CODING WEEK

- The first-ever National Coding Week took place in September 2014 in the UK. It was founded by tech entrepreneur Jordan Love and former headteacher Richard Rolfe.
- Love and Rolfe were inspired by their experience of training a group of unemployed individuals in coding skills that helped many of them get a job.
- This event aims to help adults and children improve their digital skills to fill the growing skills gap.
- The week is also focused on encouraging women to start coding, support existing female coders and close the gender gap in computer skills or coding knowledge.

What is coding?

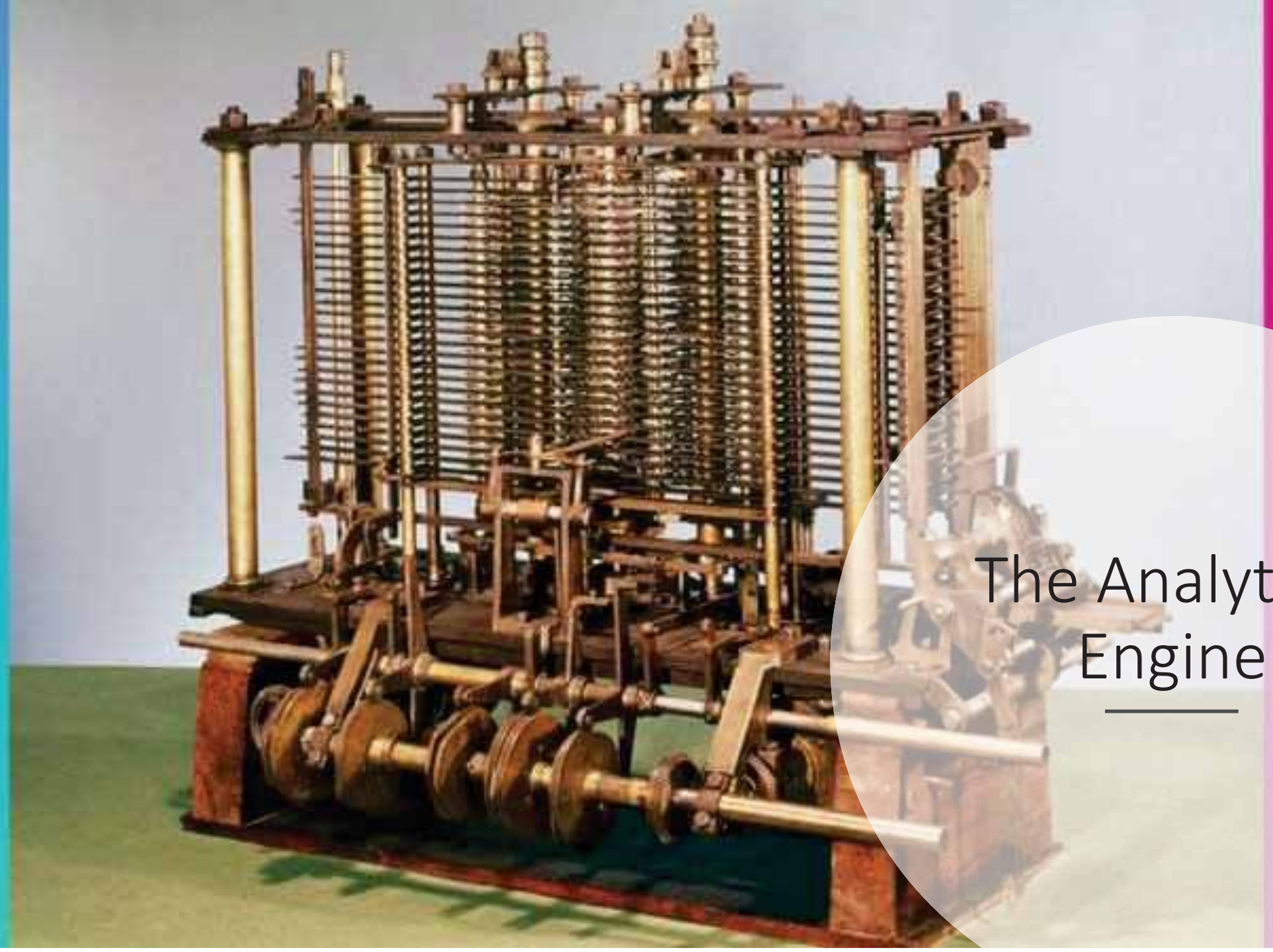
Coding, sometimes called computer programming, is how we communicate with computers.

Code tells a computer what actions to take, and writing code is like creating a set of instructions.

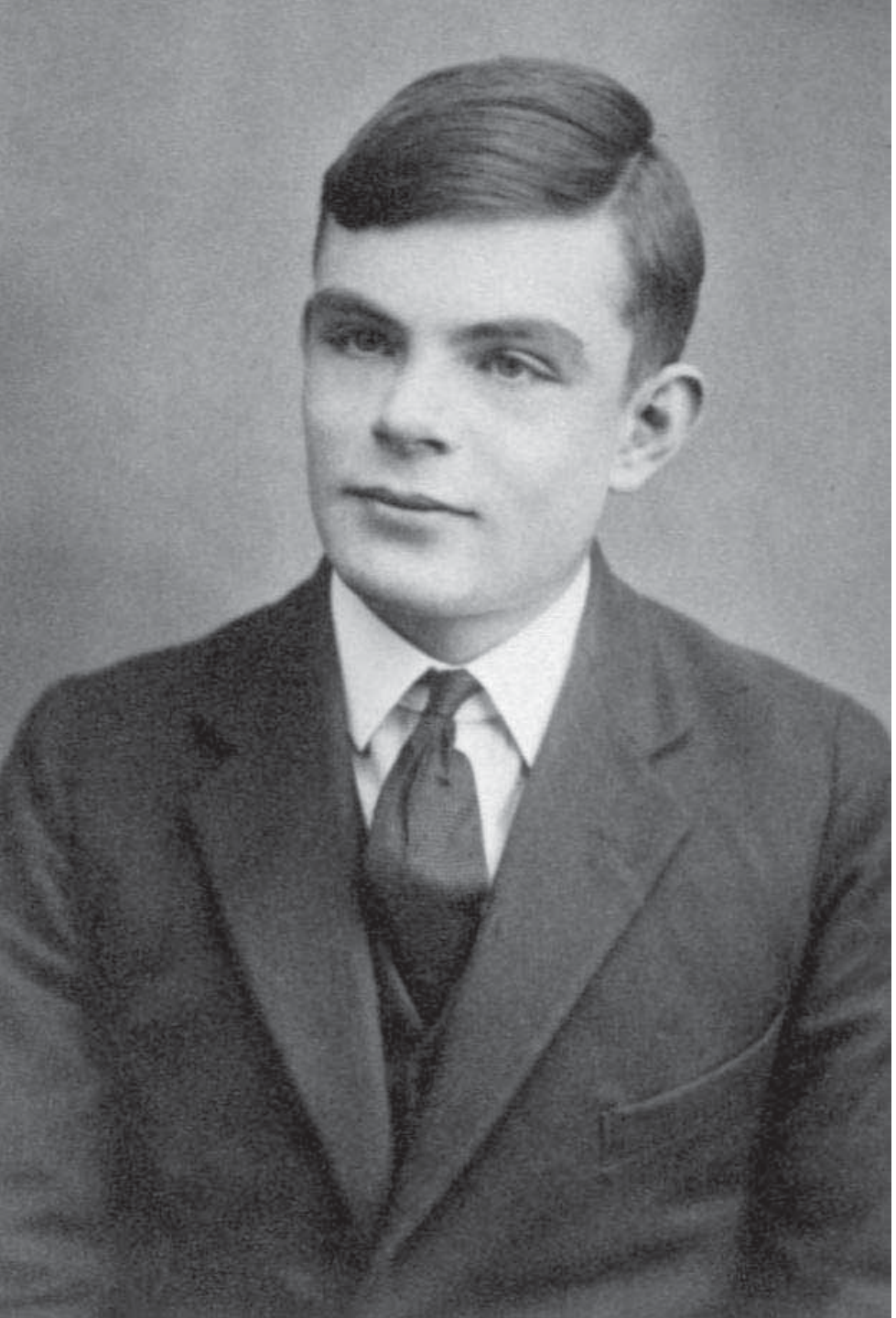
You can use this skill to make websites and apps, process data, and do lots of other cool things.

Ada Lovelace: The world's first computer programmer

- Ada Lovelace was one of the influential mathematicians and English writers of her time.
- Ada Lovelace was one of the first computer programmers. She worked with Charles Babbage, who invented the early mechanical computer called Analytical Engine.
- She was the first to realise that the computer could follow a series of simple instructions, a program, to perform a complex calculation.
- In 1843, Ada Lovelace wrote the first computer program.
- There is also a computer programming language which is named in Ada Lovelace’s honour. It was developed during the 1970s by the U.S. Department of Defense.



The Analytical Engine



Alan Turing

Alan Turing was a British mathematician. He made major contributions to the fields of mathematics, computer science, and artificial intelligence.

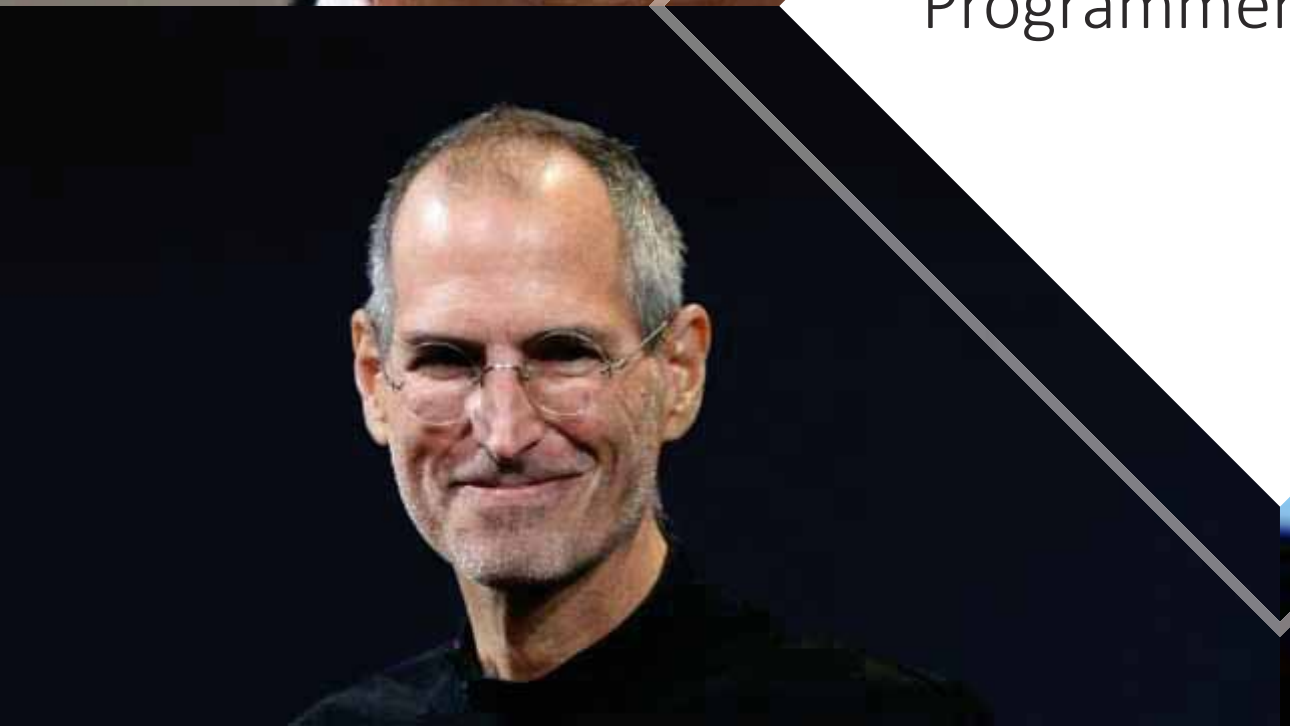
He worked for the British government during World War II at the Government Code and Cypher School at Bletchley Park. He succeeded in breaking the secret Enigma code that the German military used to communicate.

Alan Turing's code-breaking work is credited with shortening the war by at least two years, helping result in the Allied victory and saving an estimated 14 million lives.

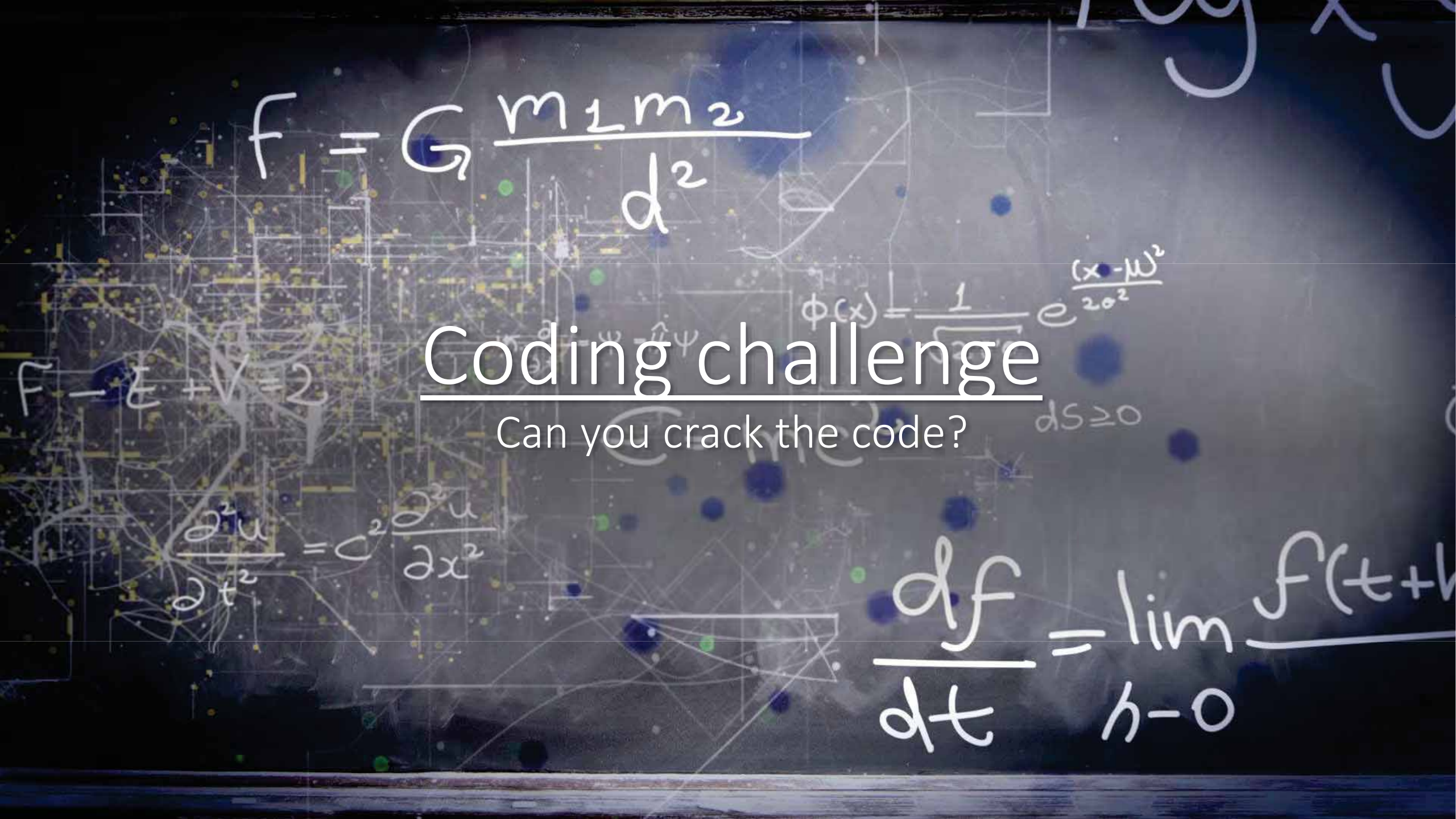
The Enigma machine

Bletchley Park mansion

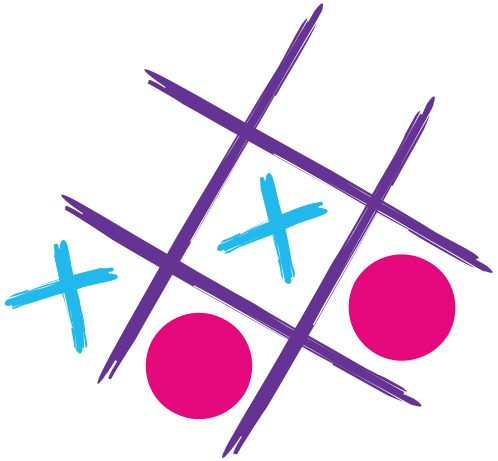
Programmers of today…



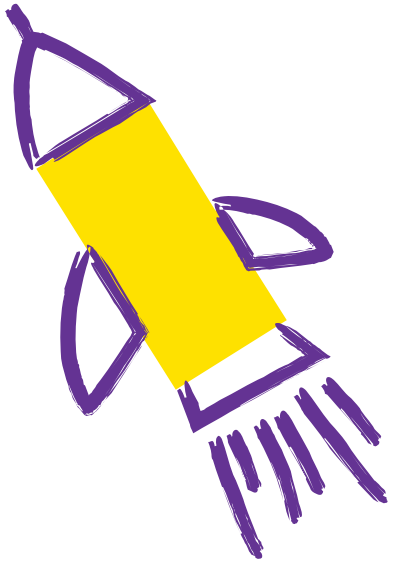
Coding in our everyday lives…

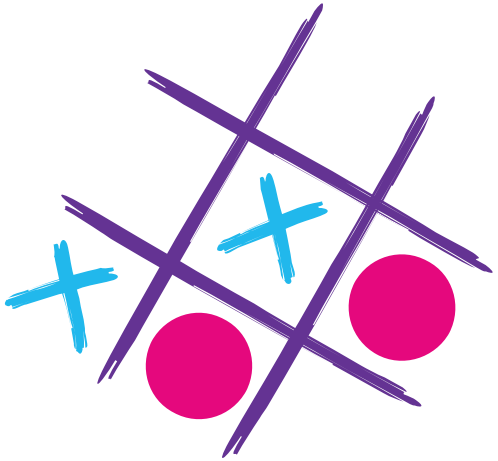

Coding challenge
Can you crack the code?

Rewind to WWII

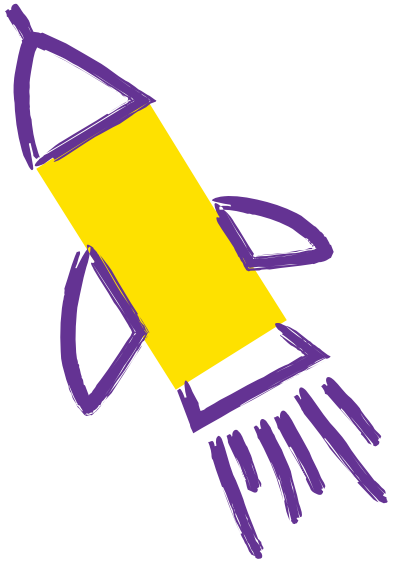


Enemy sub at invasion location. Stop. Intercepted encrypted enemy message. Stop. Need Code Crackers to decipher. Stop. Allied D-Day invasion imminent. Stop. Command needs you. Stop. Awaiting your reply. Stop.





Important message from Bletchley Park.
Stop. Intercepted from Germans. Stop.
Part of cipher uncovered. Stop.
A is equal to 1, and G is equal to 7. Stop.
T is equal to 20 and E is equal to 5. Stop.
Can you work out the rest. Stop. Hurry up Code Crackers - the War Office needs you. Stop.



Cipher key

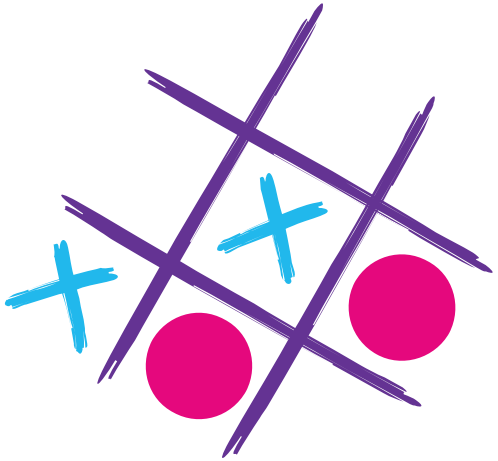
A = 1	G= 7
T = 20	E = 5

Encrypted message

12 15 3 1 20 5 4	12 15 1 4	19 16 5 5 4	4 5 16 20 8	1 20
21 2 15 1 20	10 21 14 15	15 18 4 5 18 19	3 8 1 18 7 5 19	
20 5 14	2 5 1 3 8	20 23 5 12 22 5	18 5 1 4 25	
13 9 12 5 19	11 5 5 16	11 14 15 20 19	1 23 1 9 20	
14 15 18 20 8	15 6	6 21 18 20 8 5 18	15 21 20	
25 15 21 18	3 15 13 13 1 14 4	8 9 7 8	7 5 18 13 1 14	

We need to send our completed messages…

Send



Enemy sub found. Stop.
D-Day a success. Stop.
Mission complete Code Crackers.
Stop. Well done. Stop.