Substitution ciphers

065 083 067 073 073 032 099 111 100 101

Substitution ciphers

Secret codes have all sorts of uses in computing

Think about how many times you use passwords to access accounts or use biometric details to access your device

All of that data has to be kept securely so that no one else can see it

And that's before we get started on credit card details and online shopping

Substitution ciphers

065 083 067 073 073 032 099 111 100 101

ASCII code is used by computers to store keyboard characters. It's the basic way that they store and transmit any text. Like this.

It has to be numbers, because everything inside a computer has to be stored as a number

Substitution ciphers

Substitution ciphers are simple, easy to use codes

One value is **substituted** for another one - so when you write G it gets converted to R. Or K or % or 071

A	B	C	D	E	F	G	H
D	S	Q	I	B	T	R	P

Substitution ciphers

A	B	C	D	E	F	G	H
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The message that can be understood is called the **plaintext**

The message in code is the **ciphertext**

Decode the ciphertext: `SDIQD MTBIT DOP`

You don't need the whole **cipher** to get the message here

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When we turn **data** into a code we use a **cipher** to write the data in the code. This **encrypts** the data.

Data which is **encrypted** can't be read unless you know the code.

Encrypting data helps keep it secret.

Substitution ciphers

We can use Excel first to create and decode ciphertext

And then, of course, we can use Python as well