

sedoc terces

Using codes

We know that:

- computers are important
- computers **store and process data**
- all data ends up as **numbers**
- all **data** ends up as **binary** (0s and 1s)

So letters, for example, have to become numbers

Using codes

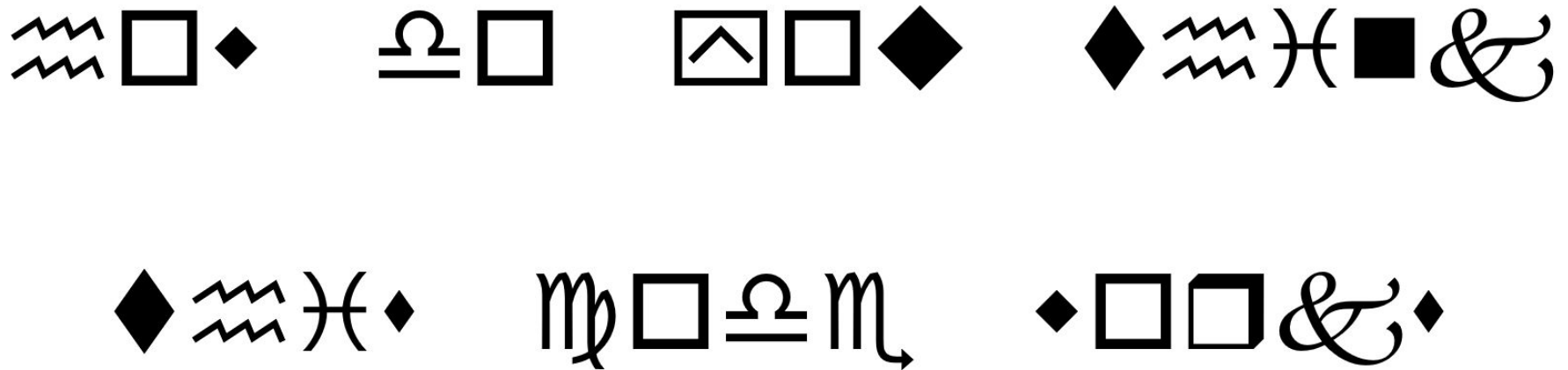
What data on a computer might we want to keep a secret?

- passwords
- credit card details
- bank accounts
- addresses
- health information
- e-mails or other private messages

To keep data secret we need to use codes

Using codes

Can you decipher this message?



Using codes

This type of cipher is a **substitution cipher**

A symbol or letter is **substituted** in place of the letter we want to encode

a	b	c	d	e	f	g	h	i	j	k	l	m
☉	♌	♍	♎	♏	♐	♑	♒	♓	er	&	●	○
n	o	p	q	r	s	t	u	v	w	x	y	z
■	□	◻	◼	◽	◆	♦	♠	♣	♠	⊗	⊠	⌘

Secret codes

This is the dancing man code used in a Sherlock Holmes story

Holmes knew that the name of a person was almost certainly in the code. This gave him enough information to break the code and solve the murder



Using codes

Substitution ciphers are easy to use but they aren't very secure

Given enough time, it's easy to break a substitution cipher code, especially if you have a clue about what might be in the code

Using codes

You know that I sent a message to Ms Hernandez about Year 8. Can you decode it?

nh svimzmvva, bvzi 8 szev yvvm evib xovevi glwzb

Using codes

nh svimzmvva, bvzi 8 szev yvvm evib xovevi glwzb

a	b	c	d	e	f	g	h	i	j	k	l	m
z	y	x	w	v	u	t	s	r	q	p	o	n

n	o	p	q	r	s	t	u	v	w	x	y	z
m	l	k	j	i	h	g	f	e	d	c	b	a

Using codes

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

The **cipher** is the key to understanding the code. When you use the cipher to reveal the actual message you **decrypt** the code

Using codes

Task:

1. List **three** types of data that people might want to keep secret
2. What does the word **encrypted** mean?
3. Explain how a **substitution cipher** works