

Topic 6: Security, Privacy and Data Integrity

EAL keyword sheet - Cambridge International AS & A Level Computer Science 9618. Write the word in your own language in the last column.

Keyword	Meaning	Example sentence	In my language
security	Protecting data and systems from harm.	<i>Security stops unauthorised access.</i>	
privacy	The right to keep personal data private.	<i>Privacy laws protect personal information.</i>	
data integrity	Data is accurate, complete and consistent.	<i>Validation helps data integrity.</i>	
authentication	Proving who you are.	<i>A password is a form of authentication.</i>	
password	A secret word used to prove identity.	<i>Use a strong password.</i>	
biometrics	Identification using body features, e.g. fingerprint.	<i>Biometrics are hard to copy.</i>	
two-step verification	Using two separate steps to confirm identity.	<i>A code is sent to my phone.</i>	
firewall	Hardware or software that monitors and filters network traffic.	<i>The firewall blocks unauthorised access.</i>	
proxy server	A server that acts between a user and the internet.	<i>A proxy server can cache web pages.</i>	
anti-malware	Software that finds and removes malicious software.	<i>Update your anti-malware regularly.</i>	
malware	Software designed to cause harm.	<i>Ransomware is malware.</i>	
virus	Malware that attaches to files and spreads when they are run.	<i>The virus infected the document.</i>	
worm	Malware that copies itself across networks without help.	<i>A worm spreads through the network.</i>	
trojan horse	Malware that pretends to be useful software.	<i>The Trojan horse was hidden in a free game.</i>	
spyware	Malware that secretly records user activity.	<i>Spyware recorded my keystrokes.</i>	
ransomware	Malware that locks files until a payment is made.	<i>Ransomware encrypted the school files.</i>	
phishing	Fake messages that trick people into giving information.	<i>The email was a phishing attempt.</i>	
pharming	Redirecting users to a fake website.	<i>Pharming sends users to a false bank website.</i>	

Keyword	Meaning	Example sentence	In my language
hacking	Gaining unauthorised access to a system.	<i>Hacking is illegal in many countries.</i>	
DoS / DDoS attack	Flooding a server with requests so it cannot respond.	<i>A DDoS attack used thousands of computers.</i>	
brute-force attack	Trying all possible passwords.	<i>Long passwords make brute-force attacks slow.</i>	
encryption	Scrambling data so it cannot be read without a key.	<i>Encryption protects data in transit.</i>	
symmetric encryption	The same key is used to encrypt and decrypt.	<i>Symmetric encryption needs a shared key.</i>	
asymmetric encryption	A public key encrypts and a private key decrypts.	<i>Asymmetric encryption uses a key pair.</i>	
digital signature	An encrypted code that proves who sent a message and that it was not changed.	<i>A digital signature proves authenticity.</i>	
validation	Checking that data is reasonable and allowed.	<i>A range check is validation.</i>	
verification	Checking that data has been entered or copied correctly.	<i>Double entry is verification.</i>	
check digit	An extra digit calculated from other digits to detect errors.	<i>A check digit is used in ISBNs.</i>	
parity check	An error check using an odd or even number of 1s.	<i>A parity bit is added to each byte.</i>	
checksum	A value calculated from data to check it has not changed.	<i>The checksum was different, so the file was corrupted.</i>	
backup	A copy of data stored separately in case the original is lost.	<i>Make a backup every night.</i>	
archive	Storing data that is no longer used often for a long time.	<i>Old records are archived.</i>	