1. Modify the following texts so that the statements are true.

One of the major problems with (symmetric / ~~public key~~) cryptography is the process of transferring keys to the recipient.

(Symmetric / ~~Public key~~) encryption (~~can~~ / cannot) be used to create digital signature.

(~~Symmetric~~ / Public key) encryption (can / ~~cannot~~) be used to create digital signature.

When (ECB / ~~CBC~~) operation mode is applied, the plaintext structural information is exposed.

When CBC operation mode is applied, there (is / ~~is not~~) limited error propagation limited.

In the case of errors in ciphertext, when (CFB / ~~OFB~~ / ~~CTR~~) operation mode is used, these errors (are propagated / ~~are not progatated~~) in the obtained plaintext.

In the case of errors in ciphertext, when (~~CFB~~ / OFB / ~~CTR~~) operation mode is used, these errors (~~are propagated~~ / are not progatated) in the obtained plaintext.

In the case of errors in ciphertext, when (~~CFB~~ / ~~OFB~~ / CTR) operation mode is used, these errors (are propagated / ~~are not progatated~~) in the obtained plaintext.

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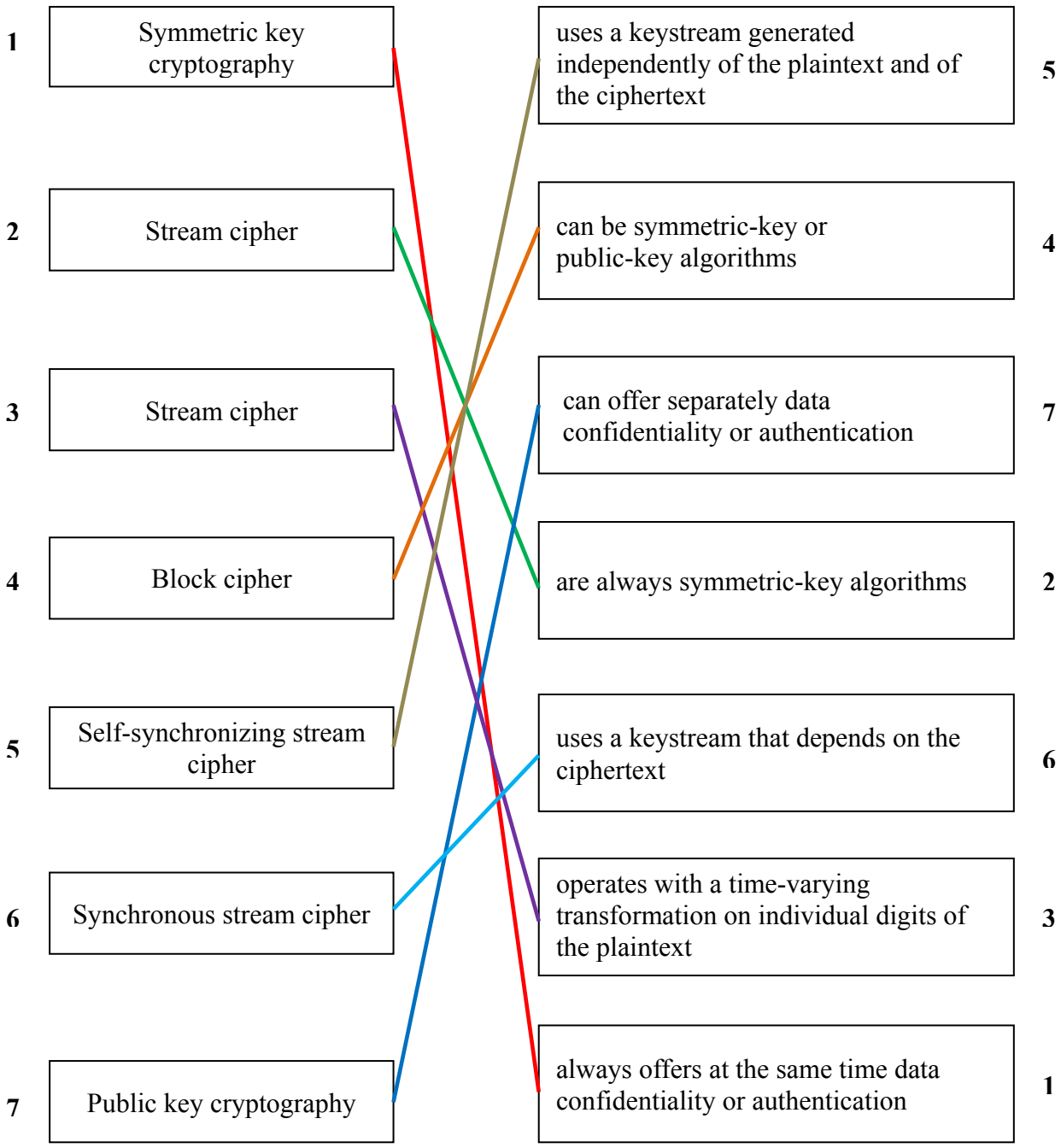
2. Assign the terms from the left column to the corresponding definitions on the right.



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3. Mark the true statements.

☐ The digital signature only depends on the authors, it does not depend on the message.

X The digital signature must use some information unique to the sender, to prevent both forgery and denial.

X The output of a hash function has a fixed length.

☐ Given a message, it is easy to find its hash and viceversa.

X It is computationally infeasible to find two distinct messages that hash to the same result

☐ Different messages always have different hash values.

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4. Classify the following attacks as active or passive.

Eavesdropping, masquerade, traffic analysis, replay, denial of service, modification

Active	masquerade, replay, denial of service, modification
Passive	eavesdropping, traffic analysis

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5. Fill the numbers of correct statements concerning digital certificates in the following table.

2
4

1 – A digital certificate contains the secret key of a subject or certificate holder, as well as the identification data of the certificate holder

2 – Digital certificates are signed with the private key of a certification authority (CA).

3 – Only the secret key certified by the certificate will work with the corresponding public key possessed by the entity identified by the certificate.

4 – Digital certificates binds together a public-key with an identity.

5 – A digital certificate contains the public key of the corresponding certification authority (CA)

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