

## Quiz - Introduction to Cryptography

1. How many unique encryption keys are required for 2 people to exchange a series of messages using asymmetric public key cryptography?

1 / 1 point

- ☐ 1
- ☐ no keys are required
- ☒ 4
- ☐ 2

✓ Correct

Correct! The sender and receiver both need a public key and a private key.

2. What is Cryptographic Strength?

1 / 1 point

- ☐ Relies on math, not secrecy
- ☐ Ciphers that have stood the test of time are public algorithms.
- ☐ Exclusive Or (XOR) is the "secret sauce" behind modern encryption.
- ☒ All of the above.

✓ Correct

Correct! All of these are critical.

3. What is the primary difference between Symmetric and Asymmetric encryption?

1 / 1 point

- ☐ Symmetric encryption is inherently more secure than Asymmetric encryption.
- ☒ The same key is used to both encrypt and decrypt the message.
- ☐ Asymmetric uses only single-use keys so a subscription to a key vendor is required to obtain new keys.
- ☐ Symmetric encryption is inherently less secure than Asymmetric encryption.

✓ Correct

Correct! That is what is symmetric about the process.

4. Which type of cryptographic attack is characterized by an attack based upon trial an error where many millions of keys may be attempted in order to break the encrypted message?

1 / 1 point

- ☒ Brute force
- ☐ Rainbow tables
- ☐ Social Engineering
- ☐ Known Plaintext
- ☐ Known Ciphertext
- ☐ All of the above.

✓ Correct

Correct! Modern computers can make billions of attempts per second, but good encryption could still make the process last billions of years.

5. What is the correct sequence of steps required for Alice to send a message to Bob using asymmetric encryption?
- ☐ Alice and Bob exchange their public keys to confirm each other's identity and then Alice uses her private key to encrypt the message that Bob can decrypt using his private key.
  - ☐ Alice and Bob exchange their private keys to confirm each other's identity and then Alice uses her public key to encrypt the message that Bob can decrypt using his public key.
  - ☒ Alice requests Bob's public key and uses it to encrypt her message. Alice then sends the encrypted message to Bob who decrypts it using his private key.
  - ☐ Alice uses her private key to encrypt her message and then sends it to Bob. Bob requests Alice's public key and uses it to decrypt the message.

✓ Correct

Correct! Alice gets Bob's public key and uses it to encrypt the message that only Bob's secret private key can decrypt.