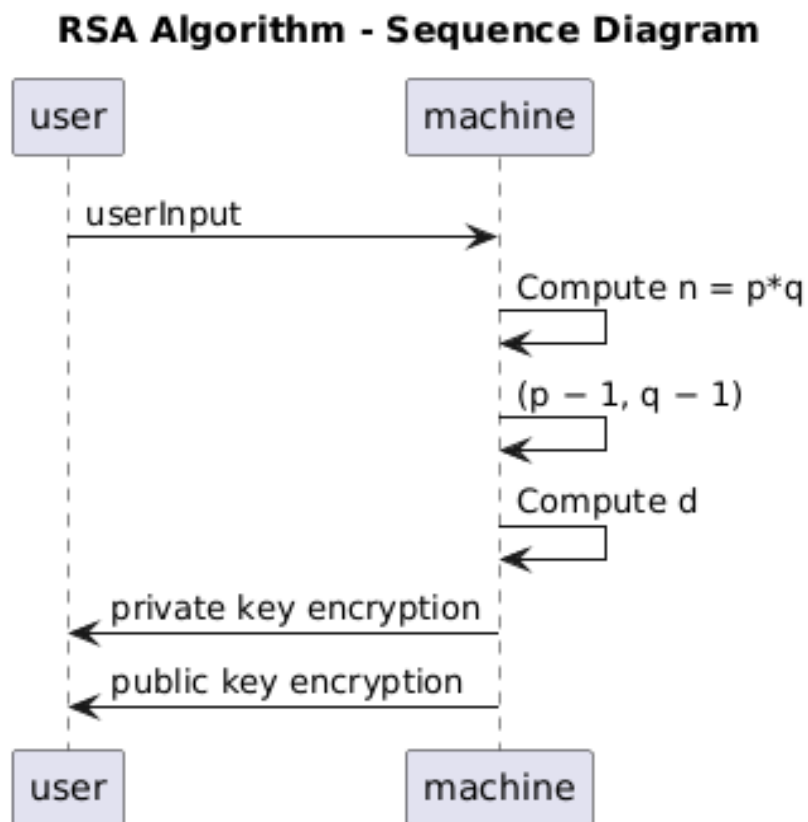# Implementation of RSA Algorithm

- RSA is a type of asymmetric encryption that uses two different but linked keys. In RSA cryptography, both the public and the private keys can encrypt a message. The opposite key from the one used to encrypt a message is used to decrypt it
- RSA Algorithm is Owen Data can be encryption and decryption.

Sequence diagram

RSA Algorithm - Sequence Diagram

user   machine

userInput

Compute $n = p*q$

$(p - 1, q - 1)$

Compute d

private key encryption

public key encryption

user   machine

Class Diagram

RSA - Class Diagram

User
- ○ Int firstPrimeNumber
- ○ Int SecondPrimeNumber
- ○ Int n
- ○ Int n2;
- ○ Int e
- ● UserInput()

machine
- ● int gcd(e,n2)
- ● int modularInvers(e, n2);
- ● int power(base,exp ,mod)