MysteryTwister C3

A CRYPTO CHALLENGE BY CRYPTOOL

# Alice's birthday party (Part 2)

Level II Challenge

# Scenario

- Alice has learned from last year's mistake and no longer sends encrypted emails to receipients who use the same RSA modulus N.
- This year, she invites her friends Bob, Bertha, and Birte to her birthday party.
- Thus, Alice sends the same message to all three of her friends, encrypted with their respective public RSA keys.
- Is Eve again able to decrypt the ciphertexts and thereby find out when and where the party will take place?

# Encryption method

- The public keys of Bob, Bertha, and Birte are (N1,e1), (N2,e2) and (N3,e3) and are available for download on the Mystery Twister website.
- The plaintext is encoded with the same method as in the previous year, i.e. applying a base64 encoding and then using the ASCII codes of the characters as a hexadecimal representation of an integer.