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**Faculty of Engineering**

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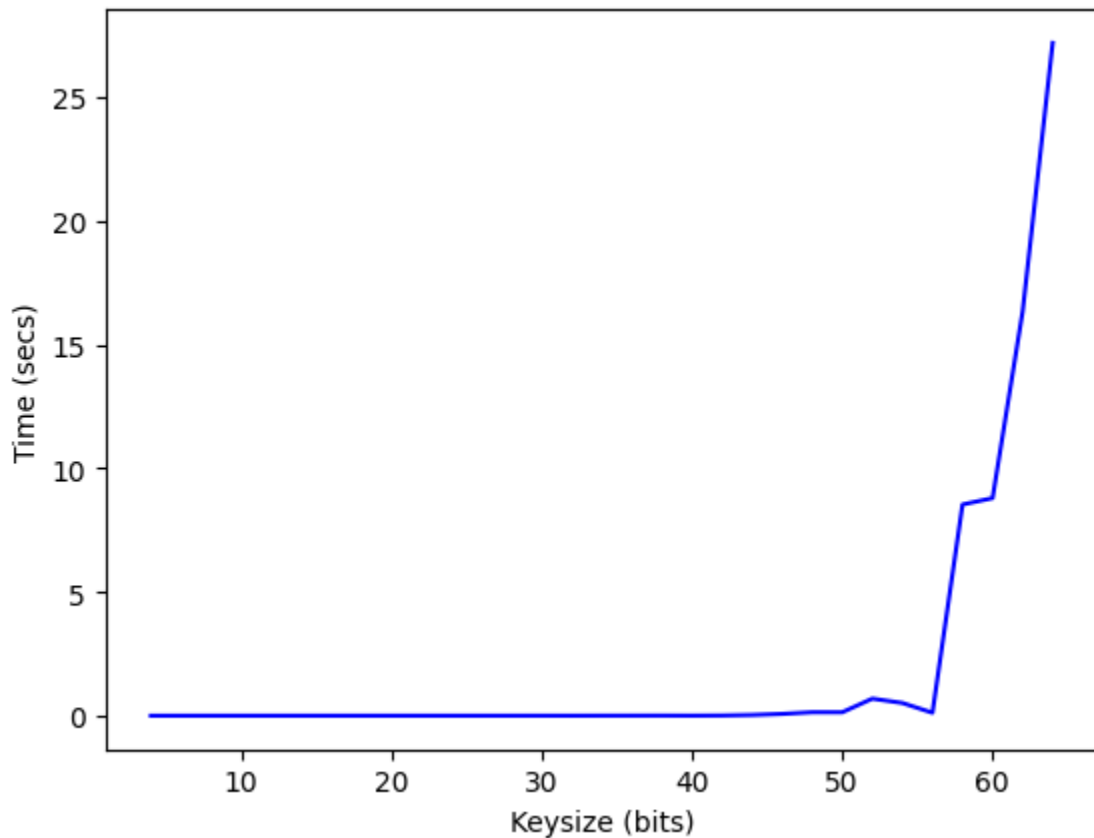
# Security and Cryptography

## RSA assignment report

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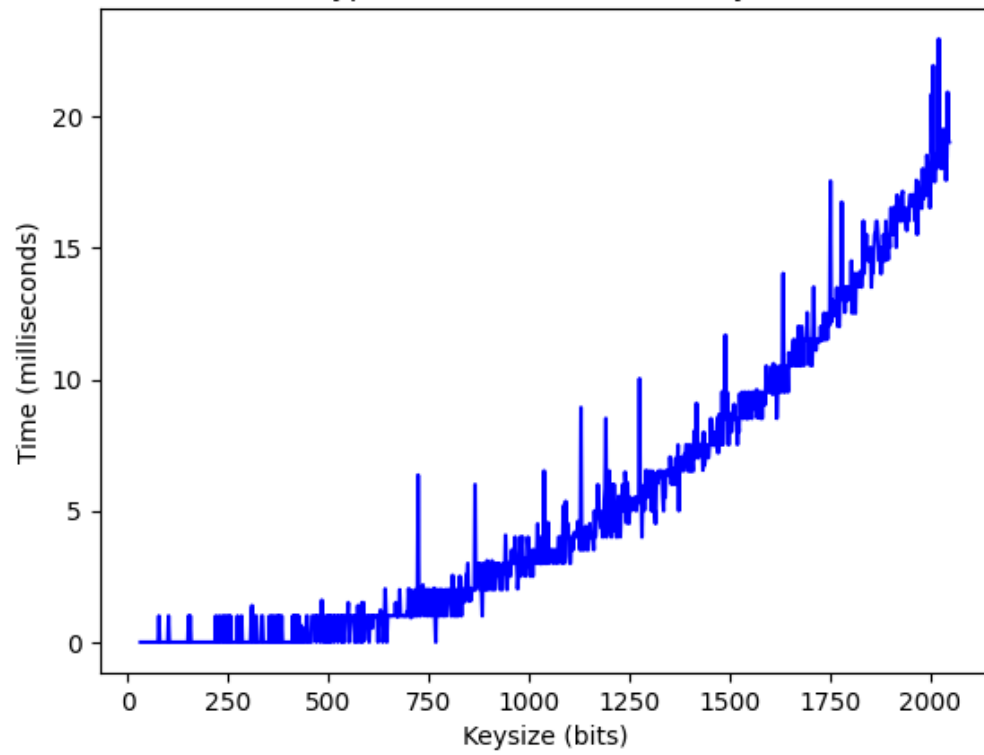
## Analysis and conclusion:

- For the attacking problem, given  $e$  &  $n$ , while observing the time to find the prime factors of  $n$  to generate the private key, it was noticeable that the time grows exponentially while increasing the number of bits ( $n$ ).



- Regarding the analysis of how different key sizes affect the encryption/decryption time, the time increases slightly when the key size increases.

Encryption time for different key sizes



Decryption time for different key sizes

