

# Quantum Cryptography

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# Introduction

Content of the first slide.

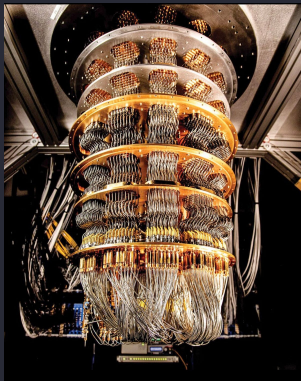


Figure: This is a quantum computer!

# There Is No Largest Prime Number

The proof uses *reductio ad absurdum*.

## Theorem

*There is no largest prime number.*

## Proof.

- 1- Suppose  $p$  were the largest prime number.
- 2- Let  $q$  be the product of the first  $p$  numbers.
- 3- Then  $q + 1$  is not divisible by any of them.
- 1- But  $q + 1$  is greater than 1, thus divisible by some prime number not in the first  $p$  numbers. □

[4-]The proof used *reductio ad absurdum*.

your mom smells