



ALMA MATER STUDIORUM · UNIVERSITÀ DI BOLOGNA

DIPARTIMENTO DI MEDICINA SPECIALISTICA, DIAGNOSTICA E Sperimentale

Beamer version of Unibo template

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# Unibo Theme example

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# There Is No Largest Prime Number

The proof uses *reductio ad absurdum*.

## Theorem

*There is no largest prime number.*

1. Suppose  $p$  were the largest prime number.
2. Consider  $q = p + 1$ .  
Since  $p$  is the largest prime,  $q$  is either prime or composite.  
If  $q$  is prime, then  $p + 1$  is prime, which contradicts the assumption that  $p$  is the largest prime.  
If  $q$  is composite, then  $q$  has a divisor  $d$  such that  $d < q$ .  
 $d$  cannot be one of the first  $p$  numbers, because if it were,  $d$  would divide  $p$ , which contradicts the fact that  $p$  is prime.  
Therefore,  $d$  is a prime number greater than  $p$ , which contradicts the assumption that  $p$  is the largest prime.
3. Therefore, there is no largest prime number.
4. But  $q + 1$  is greater than 1, thus divisible by some prime number not in the first  $p$  numbers.



# There Is No Largest Prime Number

The proof uses *reductio ad absurdum*.

## Theorem

*There is no largest prime number.*

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



# There Is No Largest Prime Number

The proof uses *reductio ad absurdum*.

## Theorem

*There is no largest prime number.*

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.
4. But  $q + 1$  is greater than 1, thus divisible by some prime number not in the first  $p$  numbers.



# A longer title

- ▶ one
- ▶ two



# Gif example



# Thanks to the research group





# Acknowledgment

Thank for your attention!



Hope you slept  
comfortably!