

L^AT_EX-Kurs

Philipp Arras, Florian Nowak

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1 Abschnitt 1

2 Primzahlen

Folie 1

\LaTeX -Kurs

Philipp Arras,
Florian Nowak

Outline

Abschnitt 1

Primzahlen

- 1 Erstens
- 2 Zweitens
- 3 Drittens

There Is No Largest Prime Number

The proof uses *reductio ad absurdum*.

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Outline

Abschnitt 1

Primzahlen

Theorem

There is no largest prime number.

Beweis.

1 Suppose p were the 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*.

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Abschnitt 1

Primzahlen

Theorem

There is no largest prime number.

Beweis.

- 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. □

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What's Still To Do?

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Answered Questions

How many primes are there?

Open Questions

Is every even number the sum of two primes?

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An Algorithm For Finding Primes Numbers.

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Abschnitt 1

Primzahlen

```
int main (void)
{
    std::vector<bool> is_prime (100, true);
    for (int i = 2; i < 100; i++)

        return 0;
}
```

An Algorithm For Finding Primes Numbers.

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```
int main (void)
{
    std::vector<bool> is_prime (100, true);
    for (int i = 2; i < 100; i++)
        if (is_prime[i])
        {

            is_prime [j] = false, j+=i);
            return 0;
        }
```

An Algorithm For Finding Primes Numbers.

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Abschnitt 1

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```
int main (void)
{
    std::vector<bool> is_prime (100, true);
    for (int i = 2; i < 100; i++)
        if (is_prime[i])
        {
            std::cout << i << " ";
            for (int j = i; j < 100;
                 is_prime [j] = false, j+=i);
            return 0;
        }
```

An Algorithm For Finding Primes Numbers.

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int main (void)
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            std::cout << i << " ";
            for (int j = i; j < 100;
                 is_prime [j] = false, j+=i);
            return 0;
        }
```

Note the use of `std::`.