# Chapter 1

# Mathematik

Sei $\epsilon$ beliebig, aber fest, dann gilt:

$$\forall x \in X : x \leq \epsilon$$

$$\alpha\beta\gamma\Gamma\delta\Delta\epsilon\varepsilon\Theta\theta\vartheta\Phi\phi\varphi \tag{1.1}$$

$$\sin\cos\arcsin\sinh\vec{A} \rightarrow\leftarrow\Leftrightarrow \top\perp\emptyset \tag{1.2}$$

$$\neg\exists\forall \subset\supset\in\notin \wedge\vee \tag{2}$$

Erklärung: Das Ergebnis in Formel 2 ist beachtlich.

## 1.1 Formeln

Limes:

$$\lim_{x_i \to 0} \frac{1}{x^{20}} = \infty$$

Wurzel:

$$\sqrt[n]{a}$$

Summe:

$$\sum_{i=1}^{\infty} 1 = \infty$$

Integral:

$$\int_{i=0}^{\infty} f(x)$$

## 1.2 Klammern

$$(abc)$$

$$\left(\int_{i=0}^{\infty} f(x)dx \middle| x > 0\right)$$

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## 1.3 Matrizen und Vektoren

$$A^{m,n} = \begin{pmatrix} a_{1,1} & a_{1,2} & \cdots & a_{1,n} \\ a_{2,1} & a_{2,2} & \cdots & a_{2,n} \\ \vdots & \vdots & \ddots & \vdots \\ a_{m,1} & a_{m,2} & \cdots & a_{m,n} \end{pmatrix}$$

Vektor:

$$V = \begin{pmatrix} a_1 \\ a_2 \\ \vdots \\ a_m \end{pmatrix}$$

$$f(x) = \begin{cases} x & \text{if } x \leq 0 \\ & \text{else} \end{cases}$$

# Chapter 2

# Informatik

## 2.1 Algorithmen

**Input:** x
**Output:** Spaghetti
v ← 2
**while** *hungry* **do**
  **if** *spaghetti available* **then**
    make spaghetti
  **else**
    eat schinken
  **end**
  eat
**end**

**Algorithm 1:** Greedy Algo

## 2.2 Quellcode

```
1         print("Hello World")
2
```

Import Basics.py:

```
1 letters="ABCDEFG"
2 for idx, letter in enumerate(letters):
3     for idy, letter2 in enumerate(letters[idx + 1:]):
4         print(idx, letter, idy, letter2)
```