Symmetric Encryption

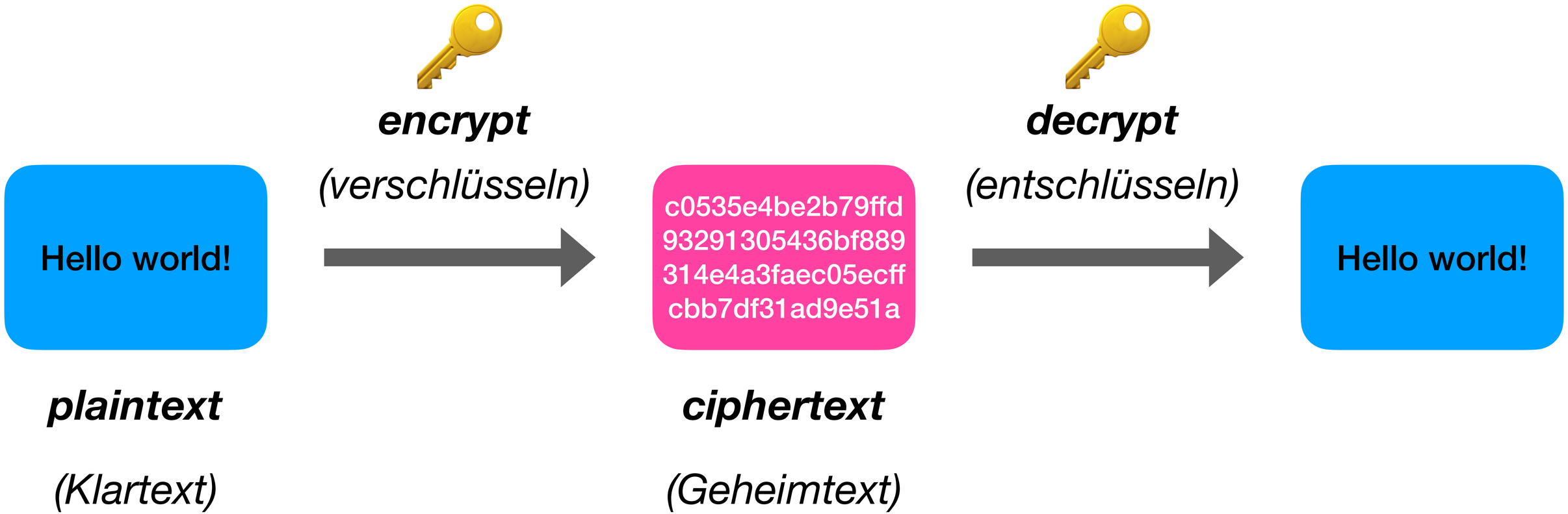
Symmetrisches Verschlüsselung

23.01.2024, Lili Wilson

Vocabulary

Auf Englisch	*Auf Deutsch*
Encryption	
Encrypt	
Decrypt	
Key	
Plaintext	
Ciphertext	
Security	
Attacks	

What is encryption? (*Verschlüsselung*)



Why encrypt?

- **Security** (Sicherheit)
- **Privacy** (Privatsphäre)
- Protect **data** in *transit* and at *rest* from **attacks** (Angriffe)

Vocabulary

Auf Englisch	*Auf Deutsch*
Encryption	Verschlüsselung
Encrypt	Verschlüsseln
Decrypt	Entschlüsseln
Key	Schlüssel
Plaintext	Klartext
Ciphertext	Geheimtext
Security	Sicherheit
Attacks	Angriffe

What does this mean?

LQM KIMAIZ DMZAKPTCMAAMTCVO WLMZ KIMAIZ KPQNNZM QAB MQV AGUUMBZQAKPMA DMZAKPTCMAAMTCVOADMZNIPZMV , LIA ICN LMZ DMZAKPQMJCVO LMA ITXPIJMBA JIAQMZB. QV LQMAMZ ABCVLM OMPB MA LIZCU, EQM UIV UQB LMZ KIMAIZ DMZAKPTCMAAMTCVO MQVMV BMFB DMZAKPTCMAAMTV CVL EQMLMZ MVBAKPTCMAAMTV SIVV CVL WJ UIV LIA DMZNIPZMV ITA AQKPMZ MQVABCNMV SIVV.

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Hint: the letter “E” is the most common letter in German

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Hint: the letter “E” is the most common letter in German

*Hint: you can use **Strg + F** to count the number of times a letter appears in Word*

What does this mean?

DIE CAESAR VERSCHLUESSELUNG ODER CAESAR CHIFFRE IST EIN SYMMETRISCHES VERSCHLUESSELUNGSVERFAHREN , DAS AUF DER VERSCHIEBUNG DES ALPHABETS BASIERT. IN DIESER STUNDE GEHT ES DARUM, WIE MAN MIT DER CAESAR VERSCHLUESSELUNG EINEN TEXT VERSCHLUESSELN UND WIEDER ENTSCHLUESSELN KANN UND OB MAN DAS VERFAHREN ALS SICHER EINSTUFEN KANN.

Caesar Cipher

A form of *symmetric* encryption, shift letters by a number **x.**

Both the sender and the receiver need to know the value of **x** to **encode** and **decode** things properly.

If you want to learn more about encryption or cybersecurity…

Donnerstag 25.01, 14:00, Rm. 011

Intro to cybersecurity: passwords (with me!)

Caesar Cipher *(implementation)*

Caesar-Chiffre *(Implementierung)*

25.01.2024, Lili Wilson

Vocabulary Review

Auf Englisch	*Auf Deutsch*
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Encrypt	Verschlüsseln
Decrypt	Entschlüsseln
Key	Schlüssel
Plaintext	Klartext
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Security	Sicherheit
Attacks	Angriffe
Caesar Cipher	Caesar Chiffre

Implementing the Caesar Cipher: Struktogramm

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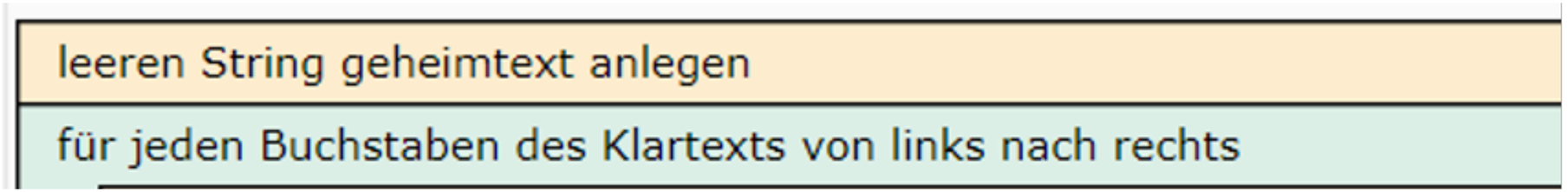
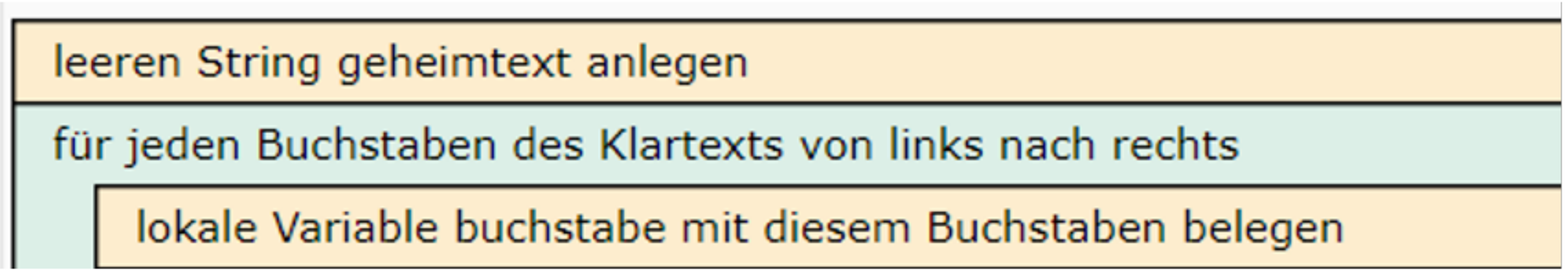
leeren String geheimtext anlegen

Implementing the Caesar Cipher: Struktogramm



Implementing the Caesar Cipher: Struktogramm



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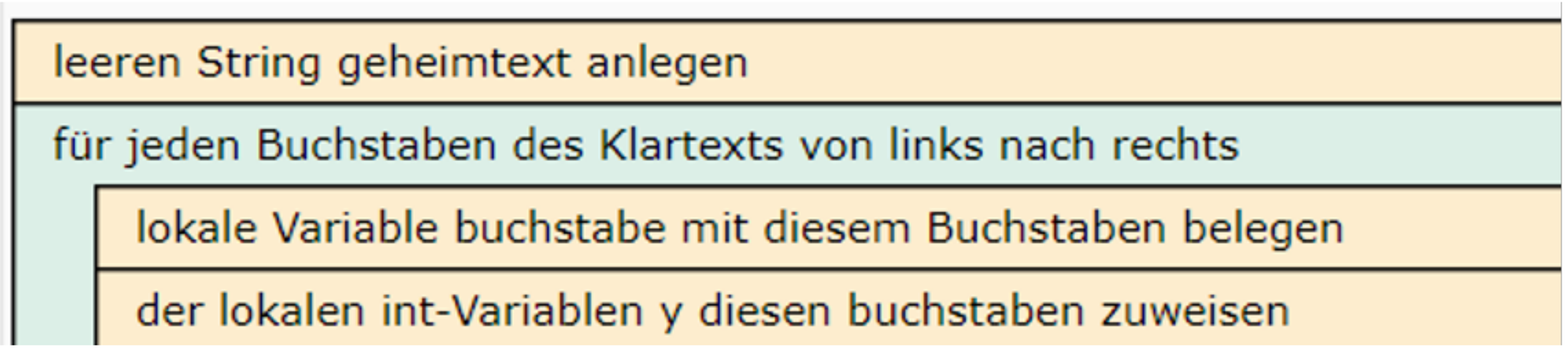

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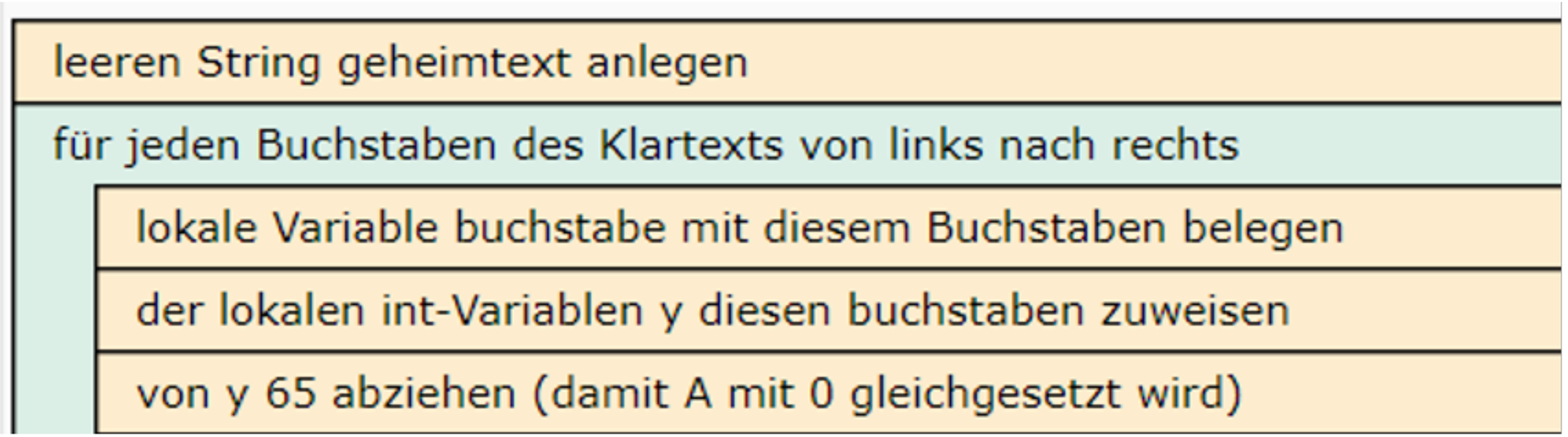

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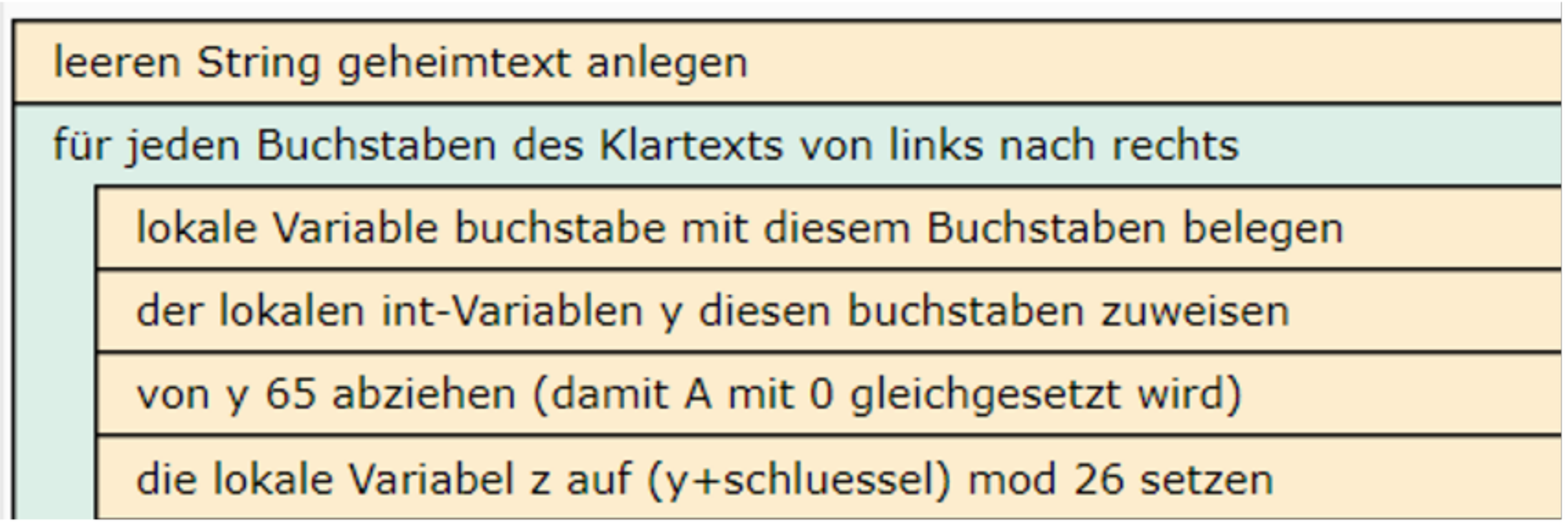

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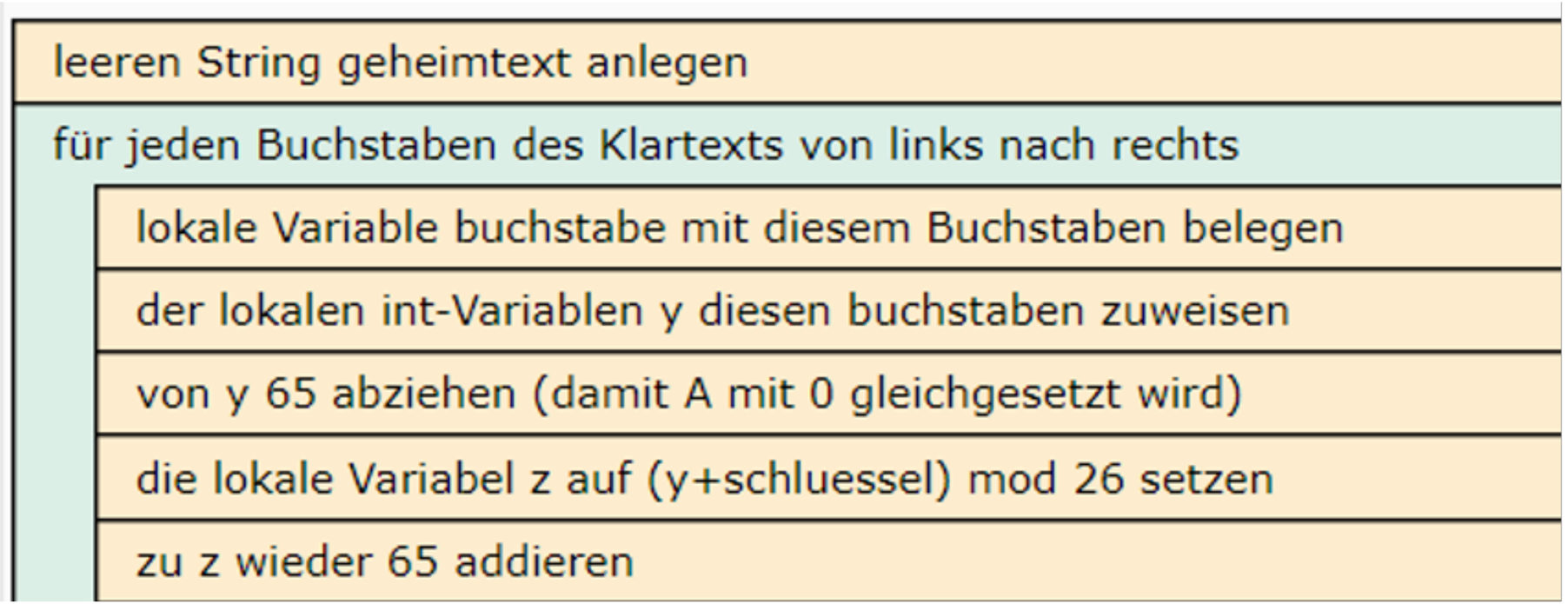

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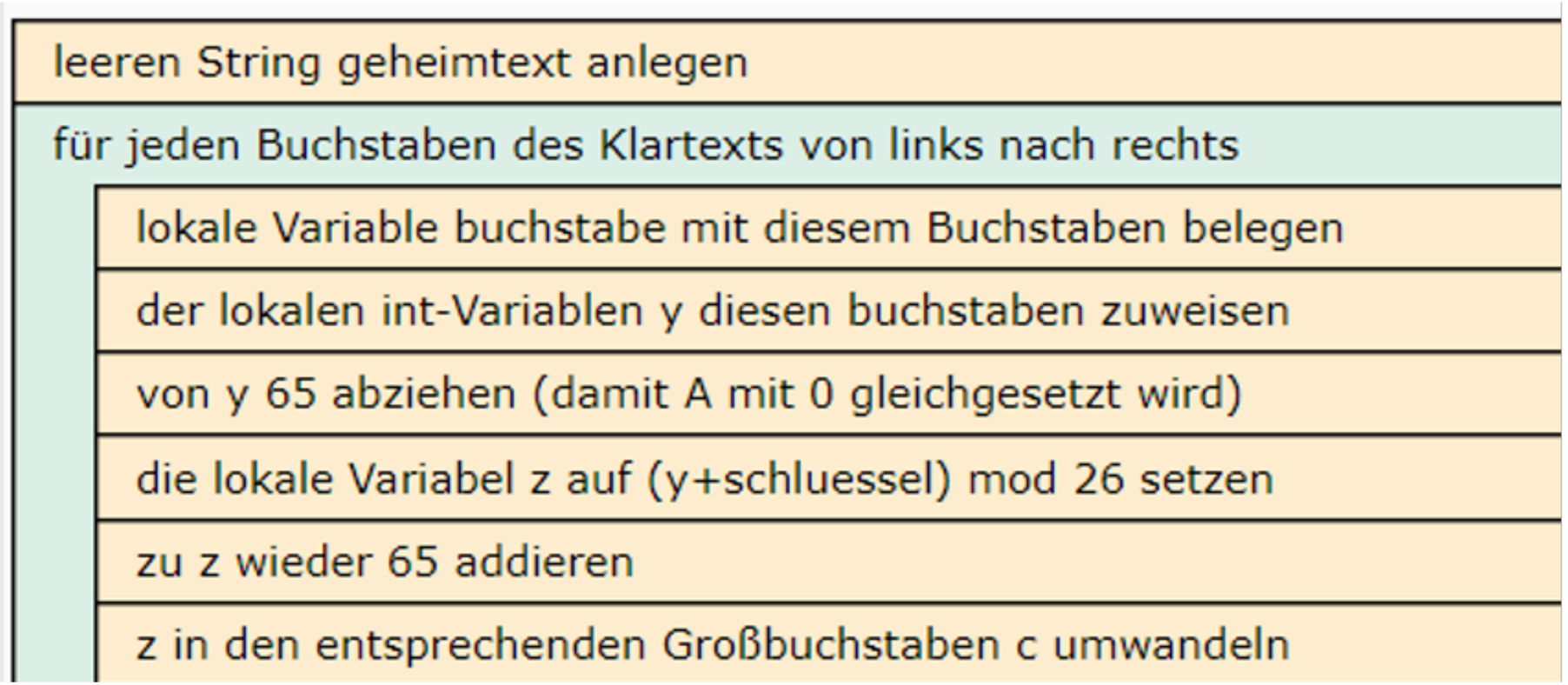

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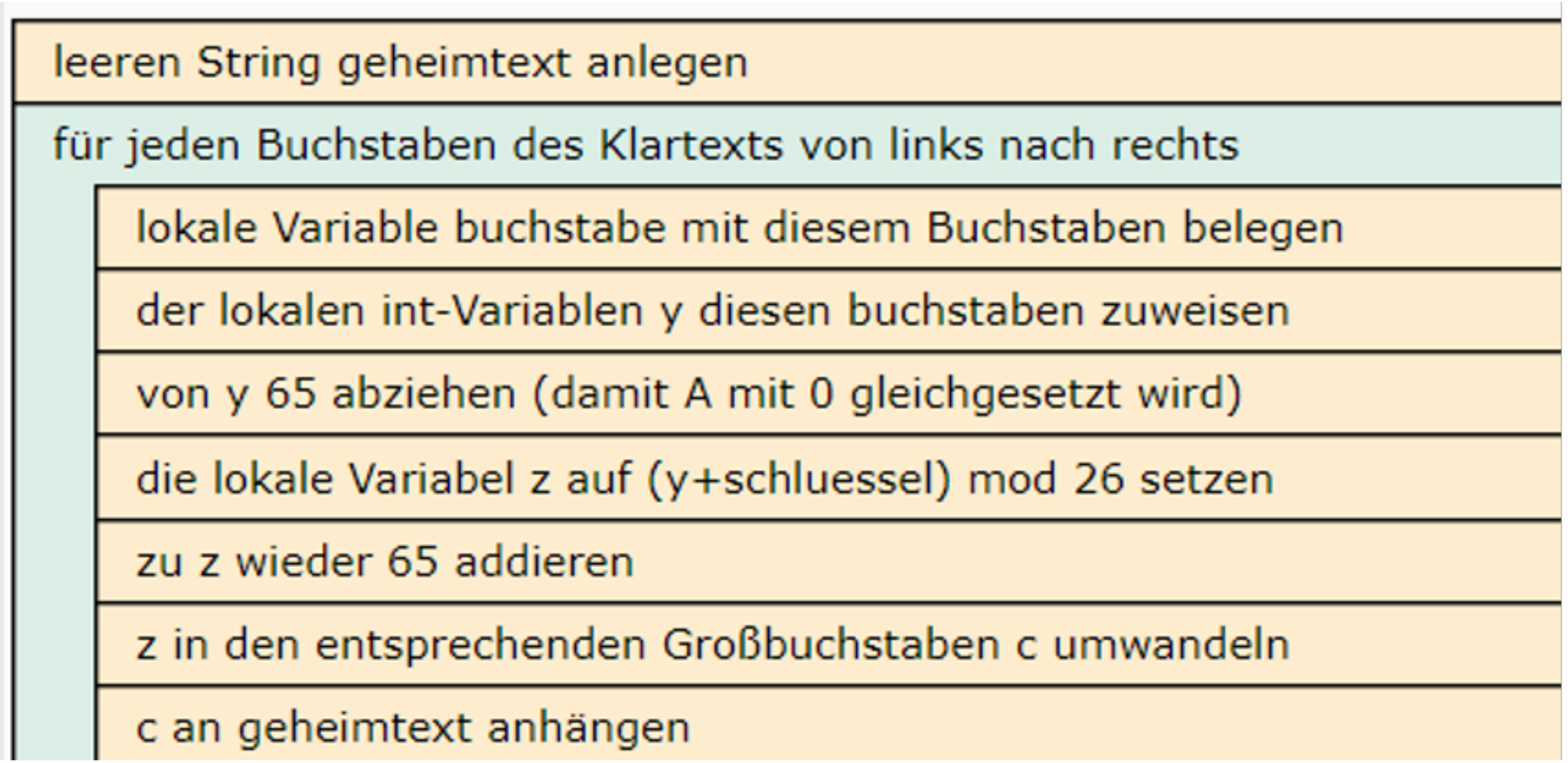

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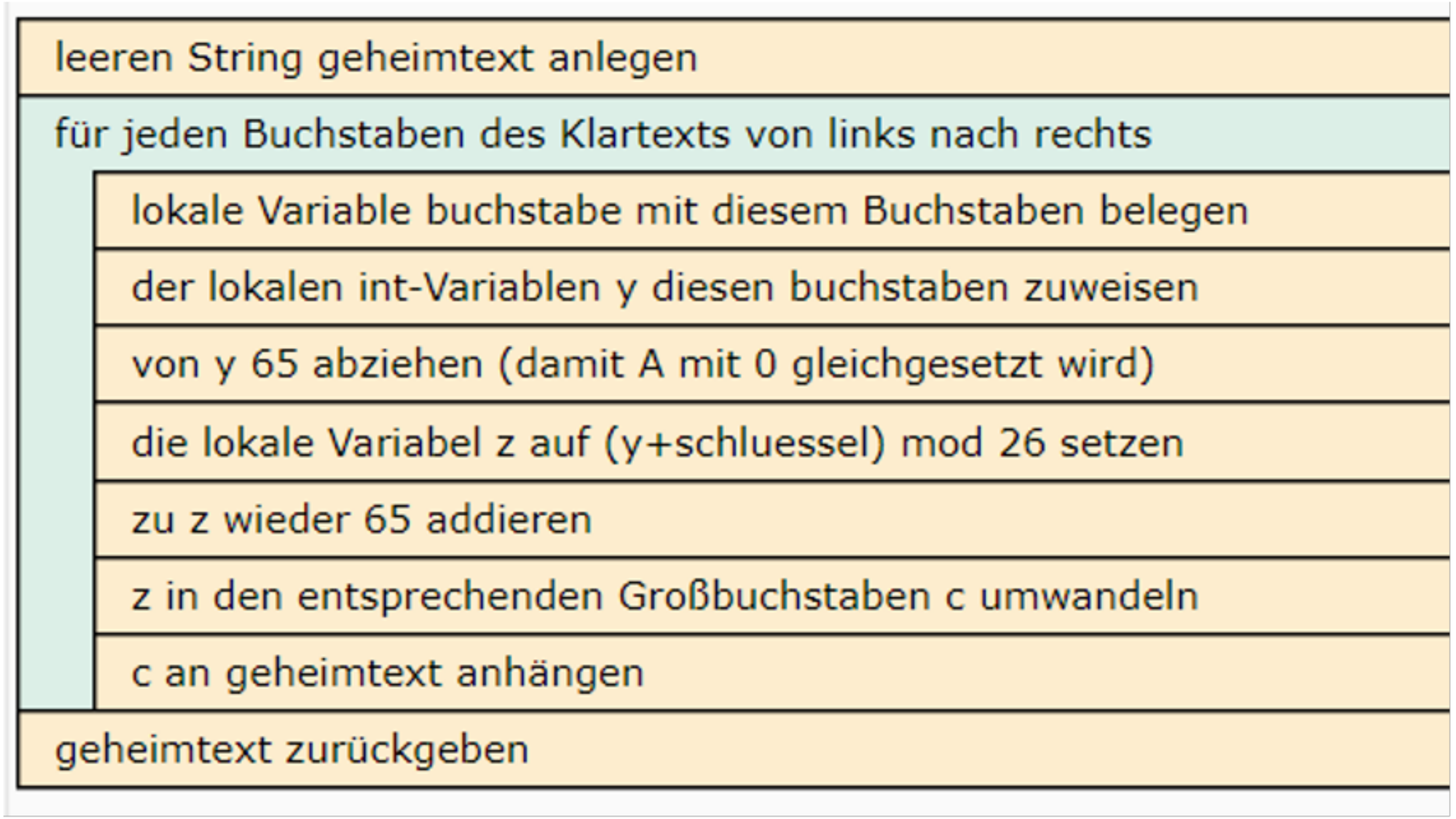

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