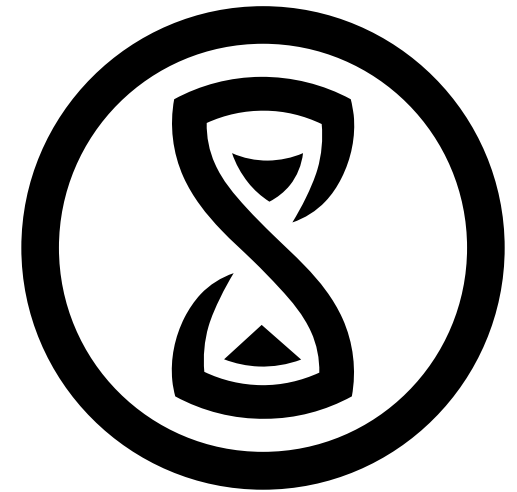


Pfadfinder

oder: wie man selbst Sticksoftware schreibt

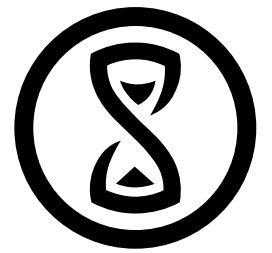
Kasalehlia

15.01.2015

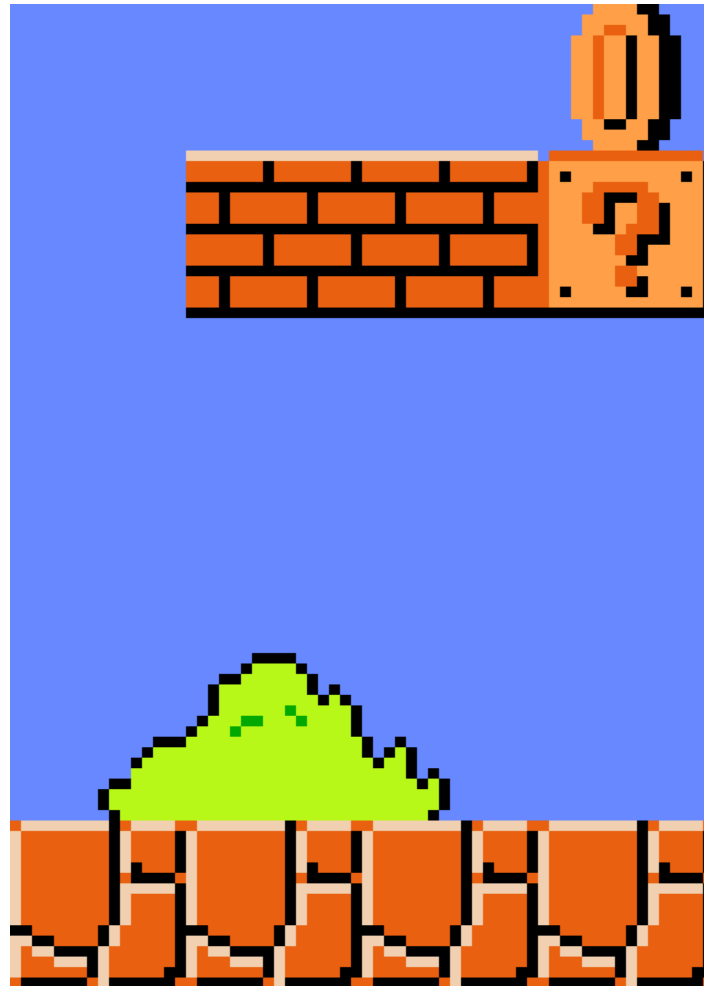


Stratum 0

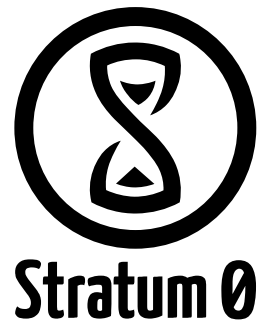
Input



Stratum 0



Probleme



- VP3
- Graphentheorie
- Travelling Salesman aka $P \neq NP$
- Bitch

FILE HEADER INFORMATION

Offset	Size	Description
0x00	5 bytes	Magic Number Always "user1" + 0
0x05	2 bytes	(N) Number of bytes in Identifier String
0x07	N bytes	Body of Identifier string. Line with characters and may not be NULL terminated
0x09-0x0B	3 bytes	Unknown
0x0C-0x0D	2 bytes	Unknown
0x0E-0x0F	2 bytes	Order Section Size. Description of number of bytes in the file
0x10-0x11	2 bytes	(N) Number of bytes in unknown string
0x12-0x13	N bytes	Body of unknown byte string

HOOP CONFIGURATION

Offset	Size	Description
Outer Hoop Dimensions		
0x00	4 bytes	Positive X Hoop dimension in 1000ths of a millimeter
0x04	4 bytes	Positive Y Hoop dimension in 1000ths of a millimeter
0x08	4 bytes	Negative X Hoop dimension in 1000ths of a millimeter
0x0C	4 bytes	Negative Y Hoop dimension in 1000ths of a millimeter
0x10	4 bytes	Unknown DWORD
0x14	4 bytes	Unknown DWORD
0x18	4 bytes	Unknown DWORD
0x1C	4 bytes	Number of tubes remaining in the file
0x20	4 bytes	Origin X Offset
0x24	4 bytes	Origin Y Offset
0x28	4 bytes	Unknown BYTE
0x2C	4 bytes	Unknown BYTE
0x30	4 bytes	Unknown BYTE
Centered Hoop Dimensions		
0x01	4 bytes	Positive X Hoop dimension in 1000ths of a millimeter
0x05	4 bytes	Negative X Hoop dimension in 1000ths of a millimeter
0x09	4 bytes	Positive Y Hoop dimension in 1000ths of a millimeter
0x0D	4 bytes	Negative Y Hoop dimension in 1000ths of a millimeter
0x11	4 bytes	Hoop width in 1000ths of a millimeter
0x15	4 bytes	Hoop height in 1000ths of a millimeter
More Unknowns...		
0x17	2 bytes	Unknown WORD
0x19	1 byte	Unknown BYTE
0x1A	1 byte	Unknown BYTE
0x1B	1 byte	Unknown BYTE
0x1C	1 byte	Unknown BYTE
0x1D	1 byte	Unknown BYTE
0x1E	1 byte	Unknown BYTE
0x1F	1 byte	Unknown BYTE

BITCH SECTION HEADERS

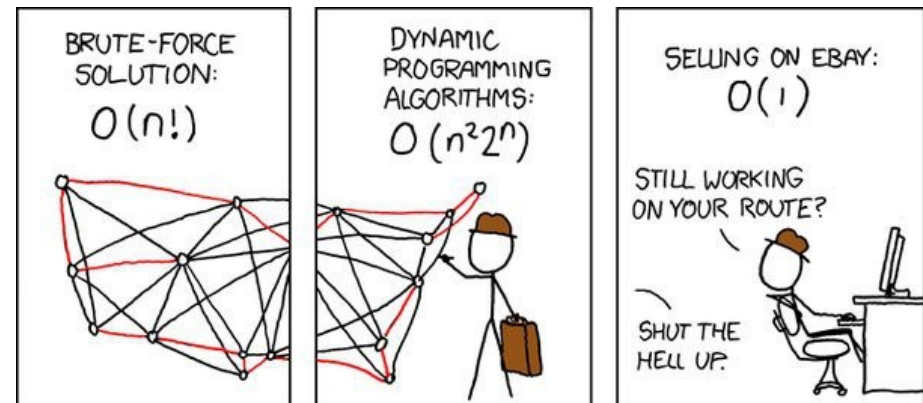
Offset	Size	Description
0x00	5 bytes	Magic Number Always 0x7F 0x7F 0x05 0x05 0x01 0x00
0x05	2 bytes	(N) Number of bytes in Identifier String (same as above)
0x07	N bytes	Body of Identifier string. Line with characters and may not be NULL terminated (same as above)
0x09-0x0B	3 bytes	Number of bytes in the pattern

COLOR SECTION

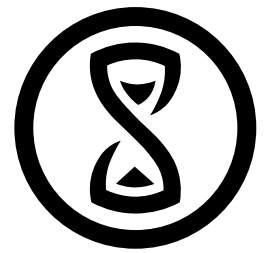
Generischer Ansatz

- Graphentheorie!
- Jede Ecke ein Knoten
- Diagonale Kanten ja
- Andere möglichst nicht
- ~~Dijkstra~~
- ~~Bellman-Ford~~

My normal approach is useless here!



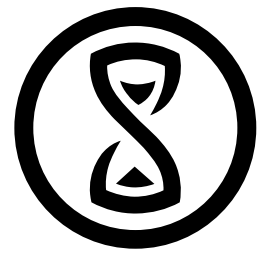
Brute Force!



Stratum 0

Klappt so gut wie es klingt

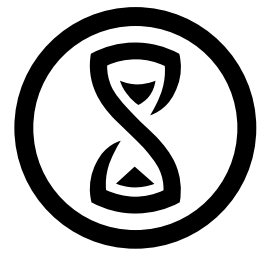
Optimierungsmöglichkeiten



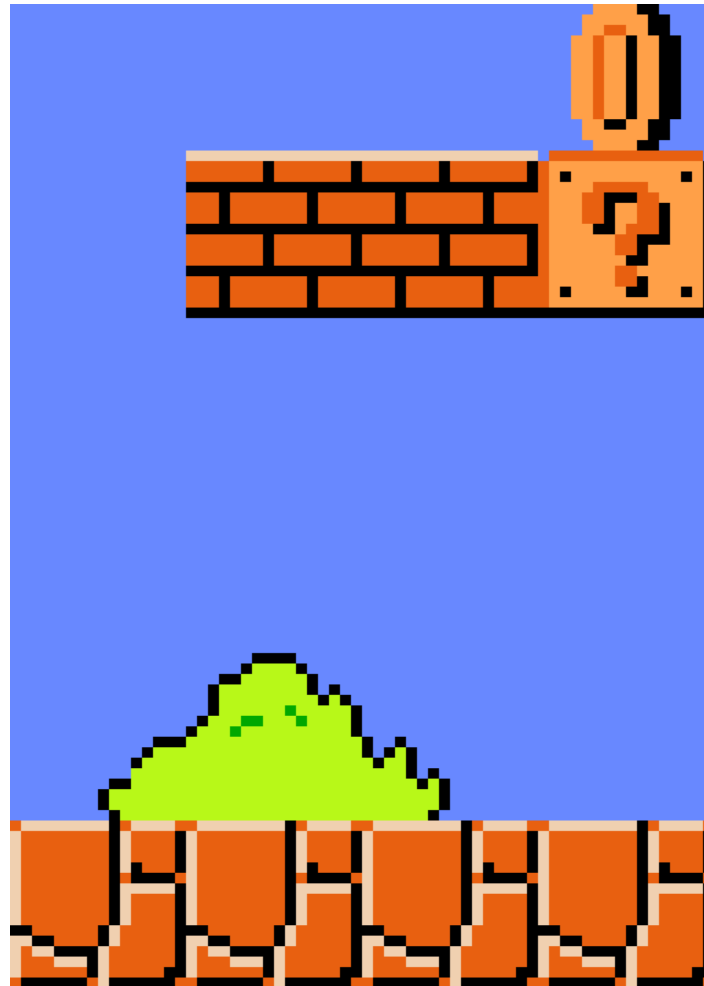
Stratum 0

- Reihenfolge der Sections
- Reihenfolge der Farben
- Start- und Endpunkte einer Section
- X-Achse vs Y-Achse

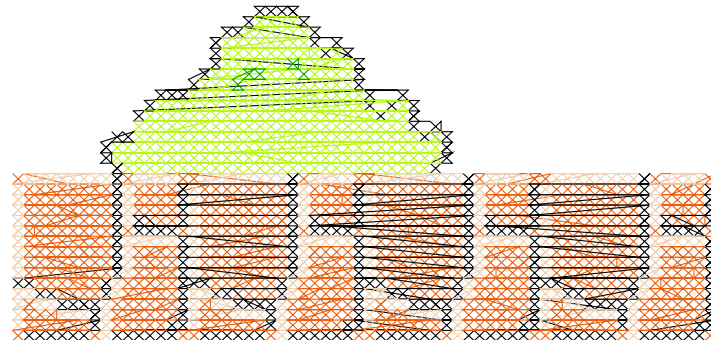
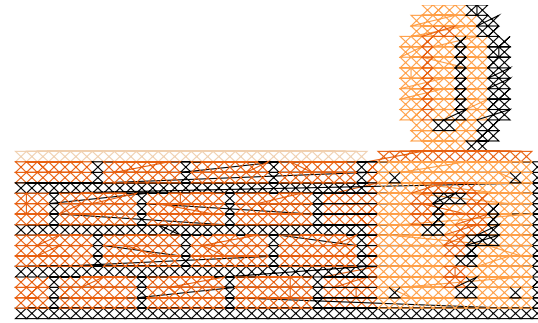
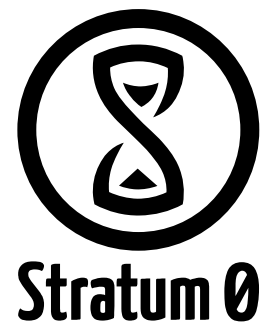
Input



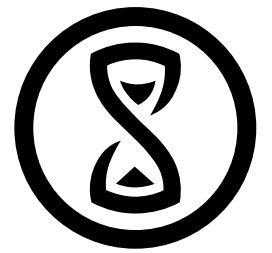
Stratum 0



Output



Zusammenfassung



Stratum 0

Was geht:

- PNG → Kreuzstich
- ab

Was geht nicht:

- Gute Pfade
- Gute Reihenfolgen
- Guter Code



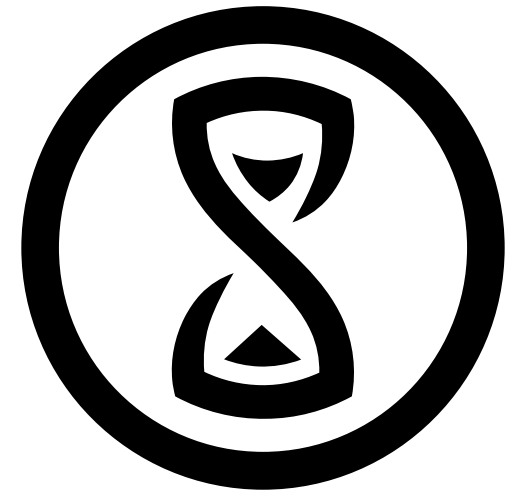
You just lost the game!

Kasalehlia

kasalehlia@clonejo.de

Stratum 0 e.V. Braunschweig

<https://stratum0.org>



Stratum 0