

# *Fiat Lingua*

Title: NailScript: Text as Tuff as Nails...Literally!

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# NAILS SCRIPT

Text As Tuff As Nails... Literally!



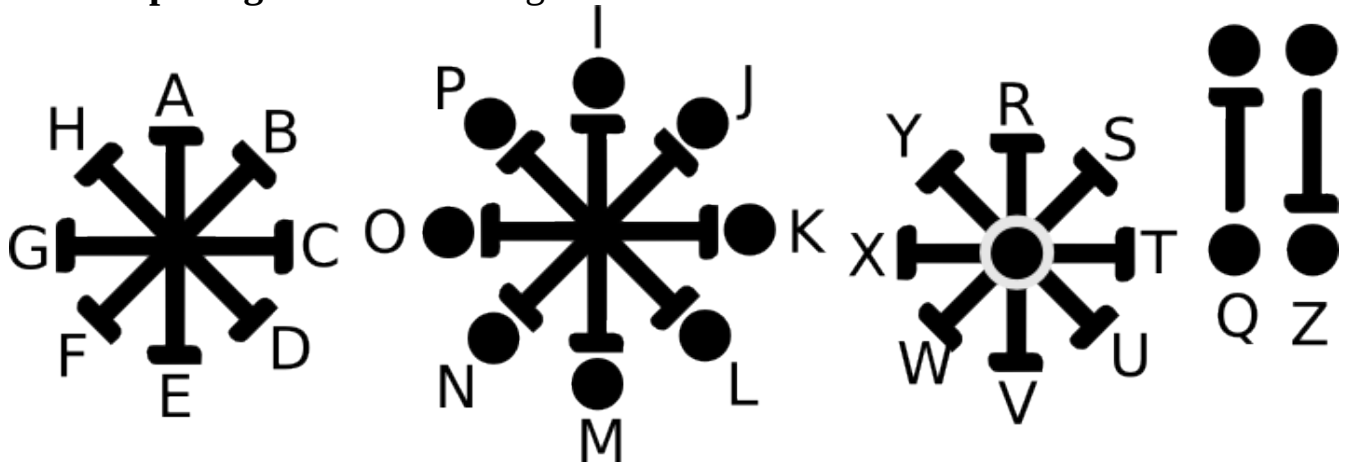
Inspired by Cuneiform and shoddy carpentry, NailScript is a constructed Script or "conscript". A Conscript is an invented writing system, or a form of code. NailScript differs from most conscripts in that it is designed to allow text to be written with nails and a hammer as opposed to pen, pencil or engraving.

The script can be written with standard writing tools, but the true efficiency and unique characteristics of the script don't come into play unless it is written with nails. It obviously does not compete with other writing systems in standard measures, it is meant for special application and novelty.

The main advantages specific to writing with nails are:

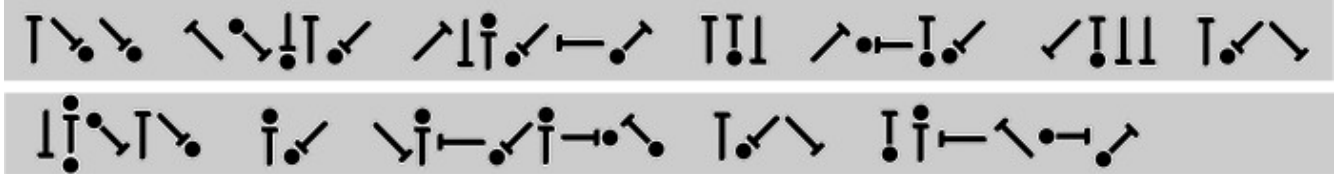
1. **Depth Layers** – Unlike writing with a pen or pencil, when you lay one nail on top of another nail you can see which is above and which is below. This means the actual sequence in which the "lines" were drawn is available. Unlike with a pen, if you were to draw an X for example you would not know which line was drawn first and which second. With nails it would be obvious because the first nail would be underneath the second nail.
2. **Directional** – The head of a bent nail is very distinct from the entry point without a head, making the direction of "line" also visible. Something very hard to identify with lines drawn by pen or pencil.
3. **Durable** – Iron nails are strong, and will last significant weathering, unlike inks and paints. Lower quality nails will rust if exposed to the elements, but even this will likely outlast any form of ink/paint based writing.
4. **Readily available.** Nails and hammers are universally available and cheap. If you wanted to leave text of a similar "permanence" special tools and materials would be required for standard scripts.

## NailScript English Index – Single Row Version



Nails are set in the wood then bent down, there are 8 possible orientations, and an extra nail can be pounded fully down to act as a “dot” which can be placed at the nail head or at the “base”(where the nail enters the wood).

Below reads : “All human beings are born free and equal in dignity and rights”

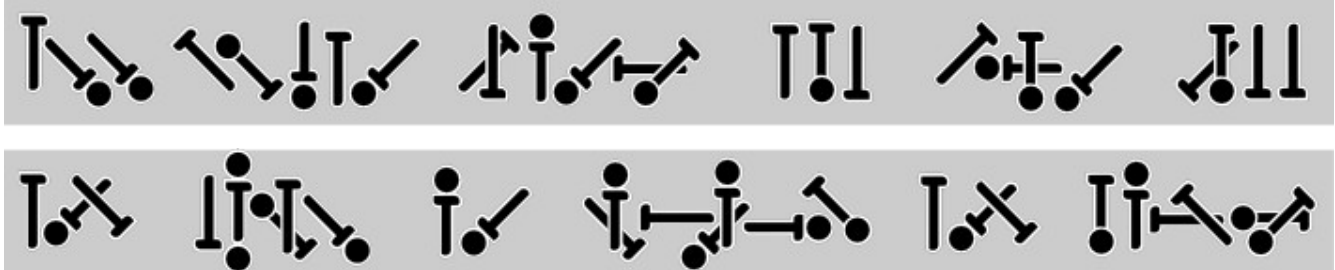


This example above spaces each letter individually.

Letters can be “sucked together tightly” to save space in many places.



The real fun begins when you start to allow nails to be laid over top of other nails



In this example some nails are overlapped. There are white outlines around each nail so if you look closely you can see which is below and which is above. Not all nails can overlap all other nails of course, 2 vertical nails of course are difficult, if not impossible, to overlap. In this example I only use overlaps when it preserves the left-right order (the lower nail is also always the left-most nail.)

## Rats Nest style



In this example the nails are overlapped almost as much as possible. The sequence of letters is primarily preserved by the layers. Previous letters are underneath following letters.

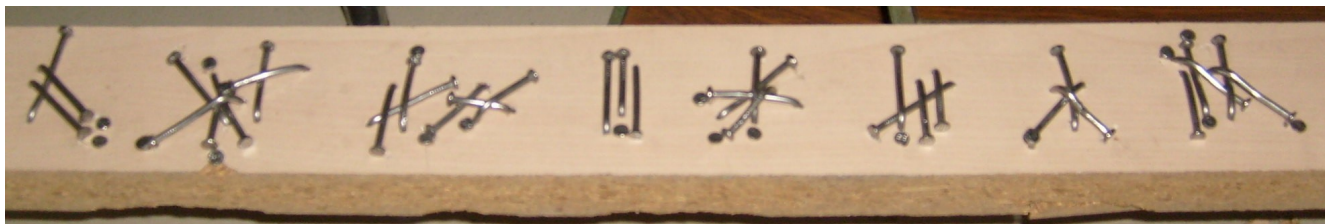
One must be careful with the “dots” and make sure that they are not laid down in ways that make it unclear which nail they belong to. You could consider conserving some nails by allowing letters to “share dots” but I have not used this at all yet.

You can actually get very creative in how to bundle them up into tight “rats nests” of what look like “a 6 years olds attempt to hammer nails” and with simple rules like bottom layer → top layer, as well as “top → bottom, left to right (when the first rule does not make it clear) letter sequence is preserved and it is legible.

The longer the nail, the more you can overlap.

Here is a real life version.

(Layers are pretty obvious in the picture, even more obvious in real life)



On the next page are zoomed in higher quality pics of the words. As you can see this “rats nest” style may be hard to read in a low quality picture, but it is quite easy in real life.



**All**

**Human**

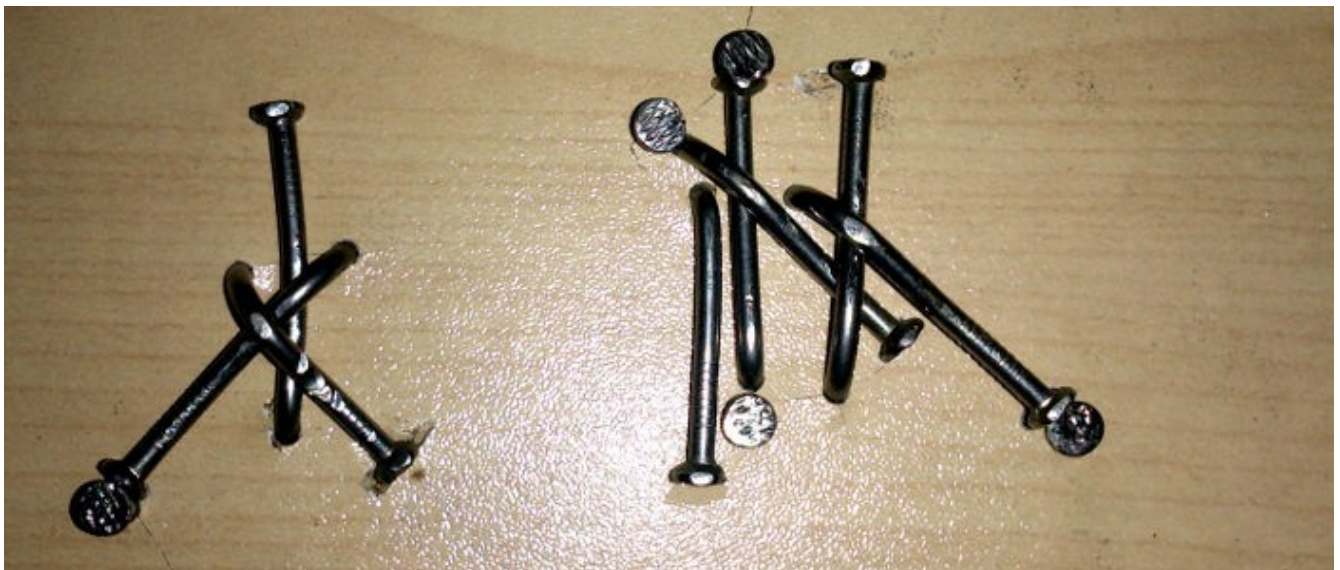
**Beings**



**Are**

**Born**

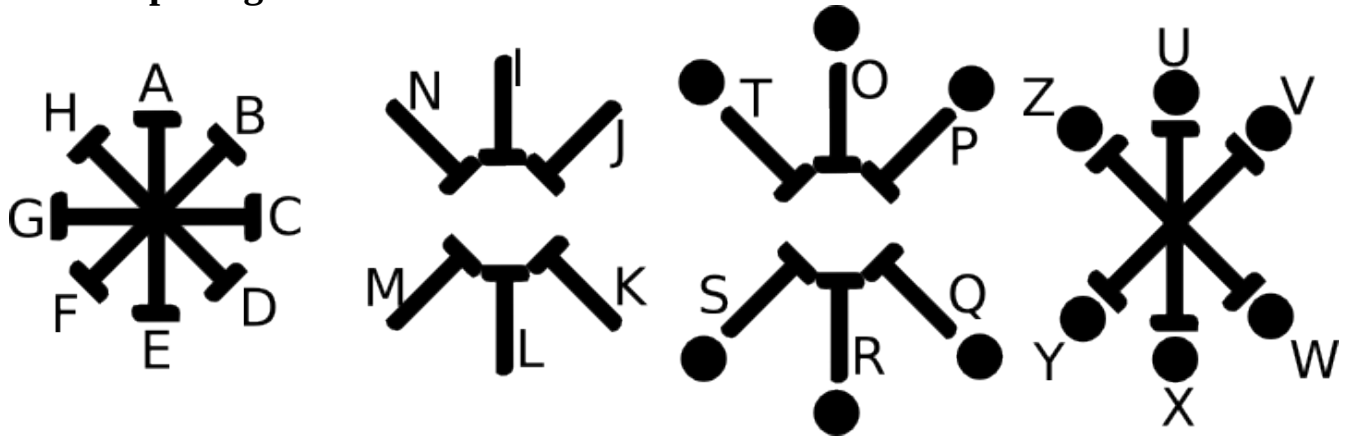
**Free**



**And**

**Equal**

## NailScript English Index – Double Row Version

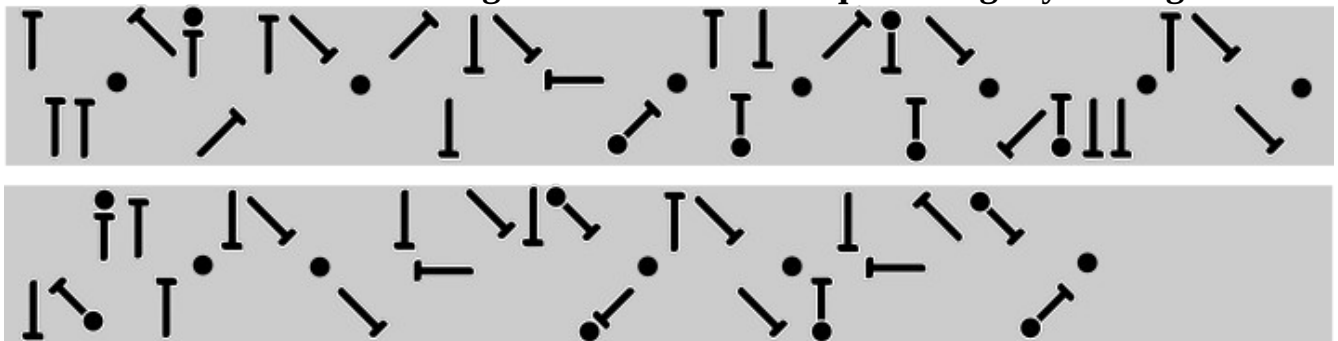


In this version of NailScript there is an imaginary line dividing the board horizontally into 2 rows. If you find it difficult to read or write without seeing the line, you can easily grab something long and straight and score a line down the board, using a nail or anything sharp, so you can see the mid-line as you hammer in the nail.

In the index above imagine the mid-line crosses through the middle of the circles. Unlike the Single row version, the double row version splits letters between the 2 rows.

I use the “dot” on the center line as a “space character” which allows the words to be drawn slightly tighter together (space between words is smaller) than the single row version. I do not use dots in the middle because there are more possibilities available in the double row version, and by omitting dotted horizontal lines the letters can be tightened up together more without risk of ambiguity. It would be hard to draw multiple horizontal stokes together and still be clear which a dot belongs to.

Below reads : “All human beings are born free and equal in dignity and rights”

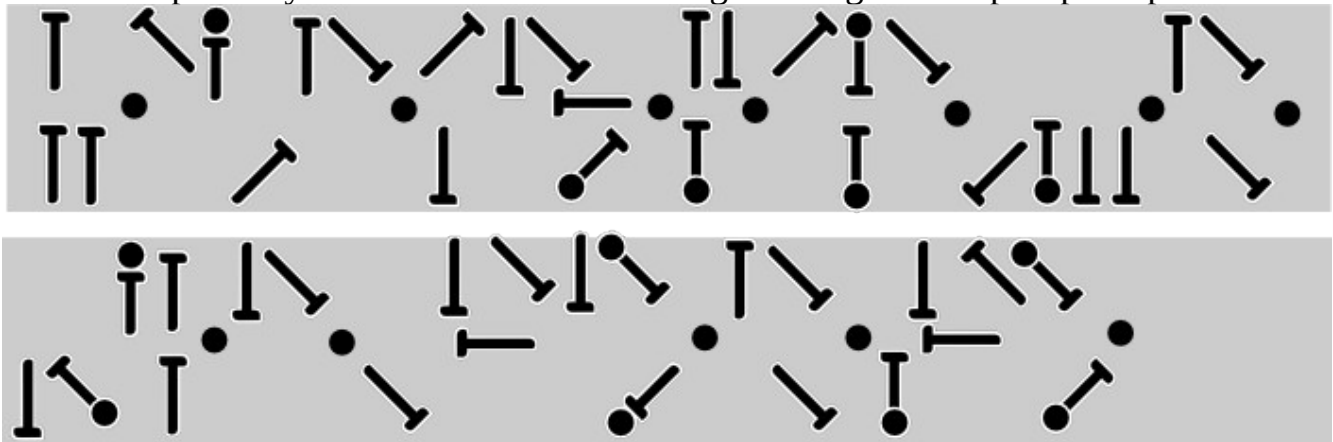


This example above spaces each letter individually.

Next you can allow letters to exist sharing space vertically. To do this I prefer to use the rule “read left to right, and when there are letters in both the top and bottom rows, read top first, then read bottom, then move again to the right.”

This means you can only “piled up”, using both rows simultaneously, roughly one quarter of the time (on average). “Left Top + Right bottom” can be merged, but “Left Bottom + Right Top Cannot”, needless to say “Top+Top” and “Bottom+Bottom” cannot be merged in this way either

In the next picture you will see the above text again using this simple "pile-up" rule.



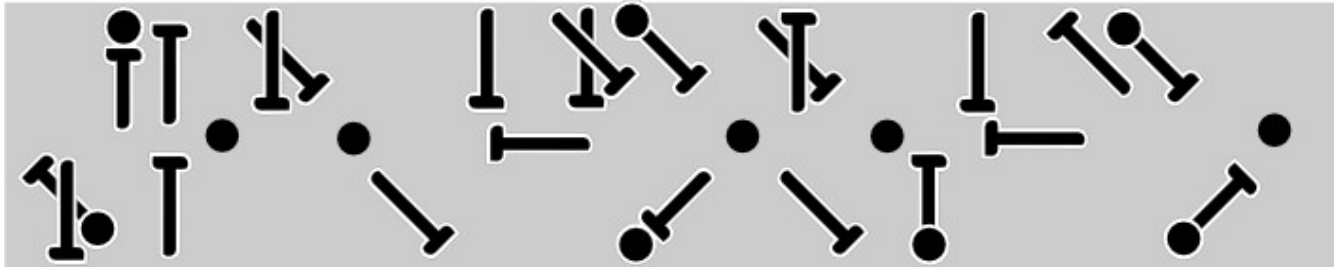
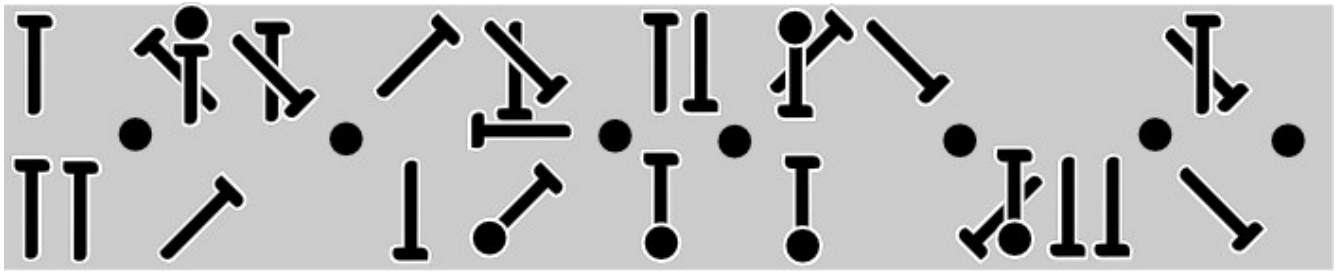
Notice, for example, the first word “ALL”, the A and first L share space. The first 2 letters D and I in “DIGNITY” (3<sup>rd</sup> word, second line) cannot share space because that would read “ID” not “DI”. You could choose to reverse this rule, but either way, how often you can save space is “luck of the draw”. Or you could choose to always save space and hope the reader can figure out the ambiguity from context.

Finally you can overlap letters. The sequence will be obvious by simply seeing which nail was “laid down first”, as it will be the nail on the bottom layer.

In double row NailScript there is much less opportunity to overlap when compared to the single row version. This is simply because every time you switch from top row to bottom row, or bottom row to top row, you must stop overlapping.

Double Row NailScript sacrifices the ability to compress each word into a “rats nest”, but the having the extra dimension of rows allows a better “horizontal compression”, largely because it allows for more distinct letters, which allows us to just drop the horizontal lines, and horizontal lines are what consume the most horizontal space.

If the board you are writing on is wide then double row nail script likely make best use of space. If the board is narrow then Single row NailScript is easier employ.



This example is the same text again but it employs overlapping when it is possible to overlap.



All Human Beings Are Born Free

In the picture above I have tried to overlap the nails as much as possible. This example shows a “relatively clear” version of what I call “minor ambiguity”. Notice the word “Beings. The letters E and I both start at nearly identical “horizontal offsets”. It is not entirely clear if it is spelled BEINGS or BIENGS.

It is rather obvious from context which is correct, but I personally prefer to avoid such ambiguities. In this case it is used because it allows compressing the word together and more overlapping, a sort of way of getting around “top-bottom/bottom-top” switching which normally limits the opportunity for overlaps.



## Tips

- Longer nails allows for easier overlapping
- Be careful to ensure it is clear which nail a “dot” belongs to
- After bending down the nail, be sure to hit it until the nail head is planted firmly in the board. This will prevent the nail from spinning. If you leave it in loose it is possible it could spin like the arm of a clock, thus transforming into other letters. (normally the bend alone will help hold it in place to some degree, because at the point of entry it curves and pushes into the wood in the direction of the bend)
- Usually a few good hits with the hammer are enough to plant the head and solidify the line, but if you have trouble preventing spin for some reason, a touch of lacquer, glue or paint should work wonders.
- Nails exposed to weather will start to rust over time, this will help “lock down” their position. If you want to speed this up just wet it down after you are done. (if you want your nails to rust but they are of high quality and treated to prevent rust, try scratching them up a bit before planting them in the board)

I originally had a warning here asking that people please don;t “mutilate trees” with NailScript and instead use the traditional carving into the bark as I guessed it would be less harmful than nails. It was pointed out to me by Matt G. in the conlang mailing list that “putting iron nails into trees is a forestry method for treating iron deficiency. Cutting into the bark is more harmful, as it disrupts more of the cambium, which is the only part of the trunk that's alive.” I am not sure if there is a potential risk of “excessive iron supplement” should you place too many nails, but it appears that it might actually be better than carving in the bark.

*\*\*If you like NailScript you will probably also like **WireScript**, a 2D/3D writing system that can be written by bending wires. Works great for art, sculptures and jewelry.*

<http://dscript.org/wirescript.pdf>

*\*\*You may also like Dscript, a 2D writing system. **Dscript** allows you to write text very flexibly in 2D, and “turn word into symbols and glyphs”.*

<http://dscript.org/dscript.pdf>

*\*\*I have also Developed some fun “**Mad Science**”/”**Technology Art**” inventions and experiments. Great DIY fun.*

<http://dscript.org/inventions.pdf>



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