# NCIC FPC filing sequence formula 

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#### Abstract

The NCIC FPC Filing Sequence Formula can be used in a physiological study on the combination of fingerprint patterns and their frequency for each digit. It was designed as applicable to genetics or any other discipline that encompasses the phenomenon of human physical structure. Theoretically, fingerprint classifications are listed chronologically according to their appearance upon the person of individuals; an advanced computational formula for educational institutions and the criminal justice system. Conclusions can be drawn from any research project that is developed with the implementation of the calculation methods provided in this article.


## Introduction

The NCIC FPC contains 20 characters, each pair of characters represents one digit beginning with the right thumb as the No. 1 digit and ending with the left little finger as the No. 10 digit; the left thumb is then No. 6. For every consecutive pair of characters, one code can be assigned out of a possible 114 codes (from PI to XX). This means that there are actually only 10 individual segments for the NCIC FPC code, with each one maintaining a pair of the 20 characters to represent an individual code [1,2] (Figure 1).

Let (X) equal the number of assigned to the NCIC FPC code (Table 1).
Each of the ten segments, with the exception of segment \#1, must be assigned a decimal number which shall be added to the assigned number for the given NCIC FPC Code.

This adding of the decimal number to the assigned number for the NCIC FPC code must be done to establish a unique numerical value to each segment of the ten-segment unit. Segment number 1, however, need not be assigned a decimal value because the other nine segments maintain an identity distinguished from it. (The reason for choosing \#1 segment as the one which shall not be assigned a decimal value is because \#1 segment is the only segment which can provide us with the lowest possible number in the calculation if no decimal was to be added to it.) It can be noted that in this way no two or more segments can provide the same exact number. Furthermore, no two NCIC FPC codes can provide the same filing number, even if the original code appeared in a reverse sequence (Table 2).

After the decimal number is added to the assigned number for the NCIC FPC code, multiplication takes place. That is, \#1 segment times \#2 segment and that product multiplied by \#3 segment, and so on until \#10 segment has been included in the multiplication. The end product shall provide the filing location for the given NCIC FPC code.

When there are ten segments and 114 possible codes for each segment the total number of combinations is $3.707221314118566 \mathrm{e}+20$.

Example:
(2.6) X (11.40001) X (11.20002) X (0.60003) X (1.60004) X (11.30005)
$X(7.10006) X(11.10007) X(0.80008) X(2.20009)=499623.8317$.
In conclusion, the NCIC FPC code, 14XXAACO04SR60TTDM10
would be filed as 499623.8317 between $1.00451 \mathrm{E}-10$ and 37,073,676,543.

Click here for statistical data on female NCIC FPC frequencies. Click here for statistical data on male NCIC FPC frequencies. Click here to determine the NCIC FPC filing number.

Click here to calculate the percent frequency of a pattern using the NCIC FPC.

## Conclusion (Epilogue)

The NCIC FPC can be looked-on as a universal language, all law enforcement agencies and other entities understand it. The filing sequence formula was created because computers should also be networked in the implementation of this strategical function, with its useful possibilities in an all scientific community. In short, it was created so that we can globally share the interpretations of the same fingerprint pattern discoveries.

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Table 1. Let X equal the number of assigned to the NCIC FPC code

| Digit | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number Assigned (X) | X | X. 00001 | X. 00002 | X. 00003 | X. 00004 | X. 00005 | X. 00006 | X. 00007 | X. 00008 | X. 00009 |

Table 2. Adding of the decimal number to the assigned number for the NCIC FPC code must be done to establish a unique numerical value to each segment of the ten-segment unit.

| NCIC FPC code | 14 | XX | AA | CO | 04 | SR | 60 | TT | DM | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number Assigned to the Given Code | 2.6 | 11.4 | 11.2 | 0.6 | 1.6 | 11.3 | 7.1 | 11.1 | 0.8 | 2.2 |
| Decimal added to the Assigned Number | 2.6 | 11.40001 | 11.20002 | 0.60003 | 1.60004 | 11.30005 | 7.10006 | 11.10007 | 0.80008 | 2.20009 |


| PI | $=$ | 0.1 | 17 | $=$ | 2.9 | 45 | $=$ | 5.7 | 74 | $=$ | 8.5 | SR | $=$ | 11.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PM | $=$ | 0.2 | 18 | $=$ | 3 | 46 | $=$ | 5.8 | 75 | $=$ | 8.6 | XX | $=$ | 11.4 |
| PO | $=$ | 0.3 | 19 | $=$ | 3.1 | 47 | $=$ | 5.9 | 76 | $=$ | 8.7 |  |  |  |
| Cl | $=$ | 0.4 | 20 | $=$ | 3.2 | 48 | $=$ | 6 | 77 | $=$ | 8.8 |  |  |  |
| CM | $=$ | 0.5 | 21 | $=$ | 3.3 | 49 | $=$ | 6.1 | 78 | $=$ | 8.9 |  |  |  |
| CO | $=$ | 0.6 | 22 | $=$ | 3.4 | 51 | $=$ | 6.2 | 79 | $=$ | 9 |  |  |  |
| DI | $=$ | 0.7 | 23 | $=$ | 3.5 | 52 | $=$ | 6.3 | 80 | $=$ | 9.1 |  |  |  |
| DM | $=$ | 0.8 | 24 | $=$ | 3.6 | 53 | $=$ | 6.4 | 81 | $=$ | 9.2 |  |  |  |
| DO | $=$ | 0.9 | 25 | $=$ | 3.7 | 54 | $=$ | 6.5 | 82 | $=$ | 9.3 |  |  |  |
| XI | $=$ | 1 | 26 | $=$ | 3.8 | 55 | $=$ | 6.6 | 83 | $=$ | 9.4 |  |  |  |
| XM | $=$ | 1.1 | 27 | $=$ | 3.9 | 56 | $=$ | 6.7 | 84 | $=$ | 9.5 |  |  |  |
| XO | $=$ | 1.2 | 28 | $=$ | 4 | 57 | $=$ | 6.8 | 85 | $=$ | 9.6 |  |  |  |
| 1 | $=$ | 1.3 | 29 | $=$ | 4.1 | 58 | $=$ | 6.9 | 86 | $=$ | 9.7 |  |  |  |
| 2 | $=$ | 1.4 | 30 | $=$ | 4.2 | 59 | $=$ | 7 | 87 | $=$ | 9.8 |  |  |  |
| 3 | $=$ | 1.5 | 31 | $=$ | 4.3 | 60 | $=$ | 7.1 | 88 | $=$ | 9.9 |  |  |  |
| 4 | $=$ | 1.6 | 32 | $=$ | 4.4 | 61 | $=$ | 7.2 | 89 | $=$ | 10 |  |  |  |
| 5 | $=$ | 1.7 | 33 | $=$ | 4.5 | 62 | $=$ | 7.3 | 90 | $=$ | 10.1 |  |  |  |
| 6 | $=$ | 1.8 | 34 | $=$ | 4.6 | 63 | $=$ | 7.4 | 91 | $=$ | 10.2 |  |  |  |
| 7 | $=$ | 1.9 | 35 | $=$ | 4.7 | 64 | $=$ | 7.5 | 92 | $=$ | 10.3 |  |  |  |
| 8 | $=$ | 2 | 36 | $=$ | 4.8 | 65 | $=$ | 7.6 | 93 | $=$ | 10.4 |  |  |  |
| 9 | $=$ | 2.1 | 37 | $=$ | 4.9 | 66 | $=$ | 7.7 | 94 | $=$ | 10.5 |  |  |  |
| 10 | $=$ | 2.2 | 38 | $=$ | 5 | 67 | $=$ | 7.8 | 95 | $=$ | 10.6 |  |  |  |
| 11 | $=$ | 2.3 | 39 | $=$ | 5.1 | 68 | $=$ | 7.9 | 96 | $=$ | 10.7 |  |  |  |
| 12 | $=$ | 2.4 | 40 | $=$ | 5.2 | 69 | $=$ | 8 | 97 | $=$ | 10.8 |  |  |  |
| 13 | $=$ | 2.5 | 41 | $=$ | 5.3 | 70 | $=$ | 8.1 | 98 | $=$ | 10.9 |  |  |  |
| 14 | $=$ | 2.6 | 42 | $=$ | 5.4 | 71 | $=$ | 8.2 | 99 | $=$ | 11 |  |  |  |
| 15 | $=$ | 2.7 | 43 | $=$ | 5.5 | 72 | $=$ | 8.3 | TT | $=$ | 11.1 |  |  |  |
| 16 | $=$ | 2.8 | 44 | $=$ | 5.6 | 73 | $=$ | 8.4 | AA | $=$ | 11.2 |  |  |  |

Figure 1. Each code for the NCIC FPC is assigned a number of the 114 possible.

## References

1. FBI (2016) National Crime Information Center Finger Print Classification (NCIC FPC)
2. Cummins H and Midlo C (1961) Fingerprint Palms and Soles an Introduction to Dermatoglyphics: 62

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