

## WISCoding for PROGRAM Verification Routine [Simplified Version]

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| FLOW<br>#                                                                                                                    | ORDER<br># | X  | TYPE | A                                                            | B                                  | C                           | #         | HEXADECIMAL |   |     |     |           |
|------------------------------------------------------------------------------------------------------------------------------|------------|----|------|--------------------------------------------------------------|------------------------------------|-----------------------------|-----------|-------------|---|-----|-----|-----------|
|                                                                                                                              |            |    |      |                                                              |                                    |                             |           | X           | T | A   | B   | C         |
|                                                                                                                              |            |    | I    | [1]                                                          | [14]                               | [1]                         |           | 000         | 0 | 000 | 00d | 000       |
|                                                                                                                              | 0          |    | I    | [14]                                                         | [14]                               | [1]                         |           | 000         | 0 | 00e | 00e | 001       |
|                                                                                                                              | 1          |    | I    | <sup>LOAD</sup><br>$w_i$ [14]                                | [14]                               | [2]                         | 001       | 000         | 0 | 00e | 00e | 002       |
|                                                                                                                              | 2          |    | TZ   | $w_i$ [14]                                                   | $[x_i] - w_i$ [14]                 | [4]                         | 002       | 000         | c | (   | 00e | 004       |
|                                                                                                                              | 3          |    | T    | [/]                                                          | [/]                                | [8]                         | 003       | 000         | 5 | 000 | 000 | 008       |
|                                                                                                                              | 4          |    | TZ   | $x_i$ [11]                                                   | $-x_f$ [12]                        | [ ]                         | 004       | 000         | c | 00b | 00c | 3c8       |
|                                                                                                                              | 5          |    | A    | $x_i$ [11]                                                   | $+ 001$ [13]                       | $\rightarrow x_{i+1}$ [11]  | 005       | 000         | 8 | 00b | 00d | 00b       |
|                                                                                                                              | 6          | 13 | E    | $x_{i+1}$ [ ]                                                | [25,12]                            | [2]                         | 006       | 00d         | 1 | 800 | 19c | 002       |
|                                                                                                                              | 7          |    | T    | [/]                                                          | [/]                                | [1]                         | 007       | 000         | 5 | 000 | 000 | 001       |
|                                                                                                                              | 8          |    | H    | [/]                                                          | [/]                                | [9]                         | 008       | 000         | 6 | 000 | 000 | 009       |
|                                                                                                                              | 9          |    | O    | [11]                                                         | [11]                               | [10]                        | $x_i$ 009 | 000         | 7 | 00b | 00b | 00a       |
|                                                                                                                              | 10         |    | O    | [14]                                                         | [14]                               | [11]                        | $w_i$ 00a | 000         | 7 | 00e | 00e | 00b       |
|                                                                                                                              | 11         |    | O    | [ $x_i$ ]                                                    | [ $x_i$ ]                          | [4]                         | $w_i$ 00b | 000         | 7 | (   | X   | 004 $x_i$ |
|                                                                                                                              | 12         |    | O    | [ $x_f$ ]                                                    | [ $x_f$ ]                          | [4]                         | 00c       | 000         | 7 | (   | X   | 004 $x_f$ |
|                                                                                                                              | 13         |    |      | constant 002                                                 | [ ]                                | [ ]                         | 00d       | 000         | 0 | 001 | 001 | 000       |
|                                                                                                                              | 14         |    |      | opato[for] $w_i$                                             | [ ]                                | [ ]                         | 00e       | 000         |   |     |     |           |
|                                                                                                                              |            |    |      | [ ]                                                          | [ ]                                | [ ]                         |           |             |   |     |     |           |
|                                                                                                                              |            |    |      | $w_i = $ <sup>stored</sup><br>[Word presently being checked] | $w_i = $ Same word fresh from tape |                             |           |             |   |     |     |           |
|                                                                                                                              |            |    |      | $x_i = $ address of $w_i$                                    | [ ]                                | $x_i = $ first word address |           |             |   |     |     |           |
|                                                                                                                              |            |    |      | $x_f = $ address of last word to be checked                  |                                    |                             |           |             |   |     |     |           |
|                                                                                                                              |            |    |      | [ ]                                                          | [ ]                                | [ ]                         |           |             |   |     |     |           |
| The program to be checked [should follow this routine, the first order on the tape (the loading input order is not checked)] |            |    |      |                                                              |                                    |                             |           |             |   |     |     |           |
|                                                                                                                              |            |    |      | [ ]                                                          | [ ]                                | [ ]                         |           |             |   |     |     |           |
|                                                                                                                              |            |    |      | [ ]                                                          | [ ]                                | [ ]                         |           |             |   |     |     |           |

 $x_i =$   
Initial  $x_i$