PROGRAM TITLE: AFIT 052 NIM

PROGRAM CLASSIFICATION: Service Routine

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PURPOSE: To play the game of NIM against an individual player.

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RECOMP PROGRAM DESCRIPTION

PROGRAM TITLE: NIM

1.   PURPOSE

To play the game of NIM against an individual player.

2.   DESCRIPTION OF GAME

NIM is played by selecting two to five arbitrary
numbers and then reducing the numbers one at a time
until all of them are equal to zero. It is played
by two people who alternate plays, the winner being
the player who reduces the last number to zero. Only
one number may be changed in each play and it must
be reduced by at least one, although the player may
reduce the entire number to zero if he desires. Thus,
if the number were 10, the player could reduce it
to any number from 0 through 9. An example of play
would be as follows (the changes made in each play
are underlined):

1st player:	9	7	6	2
2nd " :	7	7	6	2
1st " :	7	7	6	0
2nd " :	0	7	6	0
1st " :	0	1	6	0
2nd " :	0	1	1	0
1st " :	0	0	1	0
2nd " :	0	0	0	0

Thus, the second player won since his reduction made
all of the numbers zero.

3.   METHOD

3.1   Set the tab stops on the typewriter for five columns
        across the sheet of paper.

3.2   Place the tab defeat switch to the rearward position,
        i.e., the command TYC 10 in figure shift gives a tab.

3.3   Enter the coding tape and press "START 1" button.

3.4   When the machine finishes typing the game instructions
        and stops at location 7775.0, it is ready for the

first number to be entered. Type the numbers on the typewriter in the following manner: 1st number, tab, 2nd number, tab, 3rd number, tab, 4th number, tab, 5th number, and carriage return. Each time the tab or carriage return keys are pressed the machine will compute momentarily and then return to location 7775.0, indicating it is ready for the next number to be entered. If a number is entered before the machine stops at location 7775.0 an overflow will occur and the machine will stop. To clear the overflow, press "START 2" button and the carriage will return for a re-entry of the entire line. Usually, it is not possible to type fast enough for this to happen.

3.4.1   Do not enter a sign with the numbers.

3.4.2   Do not enter decimal points.

3.4.3   If any non-digit character besides Ltrs, Figs, Space, CR, or Tab is typed, the machine will type out "ERR" and return the carriage for a re-entry of the complete line.

3.4.4   Five numbers must be entered at each play. If some of the numbers are zero, the zeroes must be entered in their proper positions.

3.4.5   If more than one number is changed or if no number is changed, the machine will detect this and return to start for a new entry.

3.5   The machine will type out its play immediately below the operator's last play and offset slightly to the right. It will not type a sign and will type a decimal point for a zero. All numbers will be in fixed decimal point form.

3.6   When all five numbers have been reduced to zero the machine will type out the winner and halt at location 5555.0. If it is desired to play another game, press "START 2" button.

4.   RESTRICTIONS

4.1   Each of the five numbers picked must be less than 25.

4.2   There must be at least two numbers greater than zero.

4.3   All numbers must be positive integers.

5.   MEMORY SPACE REQUIRED

5.1   The following locations are used: 0001, 0002, 0100-0300, 3000-3167, 3320-4560.