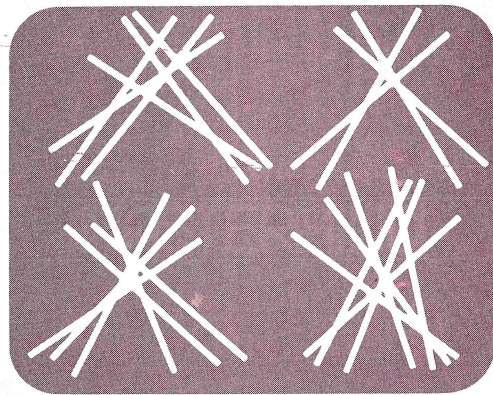


# Welcome to the all-new world of Aladdin.



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**STIX™**

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# Stix™

*by James J. Justin*

**S**tix® is a modern version of the ancient game of NIM. There are many variations of NIM, but in its most usual form two players alternately remove sticks, pebbles, or other objects from a set containing some previously determined amount. The player to remove the last stick is the winner. Stix is more complex than NIM because it allows from 2 to 5 sets, with from 1 to 19 sticks in each set. Because of this added complexity, a winning strategy for Stix is considerably more challenging to master than a strategy for NIM. For this reason the Genie in the computer may be directed by the player to play at one of five competence levels.

This program is written in Apple Integer BASIC and will load and run in an 8K Apple-II computer. No special equipment is needed to run this program, just the usual keyboard, video screen and tape recorder.

## **History**

Nim, the game on which Stix is based, originated thousands of years ago in the Orient where it was played

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with stones. In 1901, the mathematician Charles Leonard Bouton demonstrated that a winning strategy could be reduced to a mathematical formula. Do you think that you, too, can discover the secret?

### **Inputs**

The following information must be supplied to the Genie when requested.

1. The competence level at which the player desires the Genie to play.
2. Whether the player wants the Genie to set up the game or prefers to set it up himself.
3. If the Genie does not set up the game, then the player must supply the number of sets (2-5), the number of sticks in each set (1-19), and decide who will play first.
4. The name of the person playing against the Genie (15 character max).
5. A "Y" or "N" answer to various questions asked by the Genie ("Y" for "yes" and "N" for "no").

NOTE: When answering questions asked by the Genie it is possible to accidentally type an invalid or out of range response. Whenever this happens, the Genie attempts to

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give the player another chance with an indication that the input was not acceptable. In this case, re-enter your response and continue.

### **Outputs**

Conversation consisting of questions or requests from the Genie will be displayed periodically during the play of the game. Most of these questions or requests are self-explanatory and contain an indication of the desired response. For example, the request "Type difficulty level (1-5)" requires one of the digits 1, 2, 3, 4, or 5 in response.

At the end of play, after the Player indicates that he or she does not want to play again, the final score (Genie vs. Player) is displayed, along with the total number of medals won by the Player.

The Player will be rewarded as follows whenever successive games are won:

1. A Bronze medal is awarded for winning two successive games and the Genie will play the first few measures of "For He's a Jolly Good Fellow."
  2. A Silver medal is awarded for winning three successive games and a few more measures of the song are played.
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3. A Gold medal is awarded for winning four games in a row and the rest of the song is played. Additional Gold medals and the full stanza are awarded for each win over four.

### How to Load

Loading your Aladdin Personal Program® into your APPLE-II requires no special effort. After placing your computer into the Integer BASIC mode, insert the cassette into the tape recorder, making certain that it is completely rewound, type "LOAD," press the RETURN key, and place the tape recorder into the playback mode. If an error occurs, refer to the APPLE-II manual.

### How to Run

After loading the program from the magnetic tape cassette,

1. Type "RUN"
2. Wait for the first question.

"WHAT IS YOUR NAME?"

to be asked. At this point, you should type whatever name you want to use during the game (15 characters max) *followed by the RETURN key*. Not all responses need to be followed by the RETURN key in this program. Unless specifically stated in these instructions, pressing the RETURN key is *not* required.

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3. The Genie will then ask you to type the difficulty level desired with the prompt,

"TYPE DIFFICULTY LEVEL (1-5)"

The numbers in parentheses (1-5) represent the acceptable responses to this prompt. Pressing any of the keys (1, 2, 3, 4, or 5) will cause the program to continue with the Genie playing at the difficulty level chosen. A difficulty level of 1 forces the Genie to play a pretty sloppy game, which of course makes it easier for you to win. At level 2 the Genie becomes a little more competent; level 3 is even more competent, and so on.

4. Next, the Genie will ask,

"WANT THE GENIE TO SET UP  
THE GAME (Y/N)?"

If you type a "Y" for "yes," then the Genie will randomly set up the number of sets and sticks and will then decide (randomly) who will play first. If you type "N" for "no" then YOU will be allowed to set up the game and decide who will play first.

If you have decided to set up the game yourself, the Genie will ask,

"HOW MANY SETS OF STICKS (2-5)?"

Your response to this should be a whole number from 2 to 5.

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Following the number of sets, you will be asked to select the number of sticks in each of the sets chosen. You may choose from 1-19 sticks for each set. To assure that these numbers are exactly what you want, the program will not continue until the *RETURN* key is pressed. As long as you have not yet depressed the RETURN key, you may change your mind by merely pressing the backspace key and re-entering the number you desire (followed by the *RETURN* key).

The Genie will next ask if you want to play first with the question,

“WANT TO PLAY FIRST . . . (Y/N)?”

The “ . . . ” will be replaced by the name you have chosen. If you press the “Y” key then the first move is yours. Pressing the “N” key will allow the Genie to play first.

5. The Genie will next display the sticks and ask,

“WANT DIFFERENT COLORS?”

If you don't like the colors chosen by the Genie, you may press the “Y” key and the sticks will change colors. This may be repeated until you are happy with the colors displayed at which time pressing the “N” key will cause the game to continue.

6. When it is your turn you may tell the Genie how

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many sticks you wish to remove from which set by entering the number of sticks, followed by a comma (,), followed by the set number they are to be removed from, followed by the *RETURN* key. The sets are numbered consecutively from the top. That is, the top row of sticks belong to set number 1, the next row to set number 2, and so on. For example, if you wish to remove 3 sticks from set 2, then you would enter your move as “3,2” followed by the RETURN key. The comma between the two numbers *must* be present.

7. After you have taken your turn the Genie will take his turn and play will continue to alternate until only one set of sticks remains. At this point the Genie will indicate who has won this round, and ask,

“READY TO PLAY AGAIN (Y/N)?”

Pressing the “Y” key will return you to step 3. Pressing the “N” key will cause the final score (the number of games won by the Genie and the number of games won by you) to be displayed along with any medals you may have won and the game will end.

### **Strategy and Comments**

There *is* a definite *winning* strategy for this game, but to divulge it here would deprive you of the pleasure of discovering it for yourself. If you cannot solve the puzzle and

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it is driving you mad write to ALADDIN and we will send the solution to you.

It might be wise and less harmful to your ego if you start by playing the easier versions, and then work up to the more difficult ones as your confidence increases. When you can consistently win, at level 5, when the Genie sets up the game, you have mastered the Genie's secret.

### **Conclusion**

We at ALADDIN AUTOMATION hope that you enjoy using this Personal Program® as much as we have enjoyed creating it. The personal computer promises to open a whole new world of recreation, education, and home applications never before known, and ALADDIN plans to be right out front with the programs necessary to help make the personal computer an integral part of your life. We are continually designing new and exciting programs with you, your family, and your home in mind. Try some of our other programs.

AND GET READY  
TO MAKE YOUR OWN MAGIC!



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### **A Note From Aladdin...**

Aladdin Personal Programs® are produced on high quality magnetic cassette tapes using professional tape duplication methods. However, since magnetic tape oxide is not always perfectly uniform (and as such data drop-out may occur) we have included several copies of the program on each side of the tape. You will probably never experience any difficulties loading the first copy on either side, but if you do, try one of the other copies. If you cannot load *any* of the copies then you should look for hardware problems.

**And Get Ready  
to Make Your Own Magic.**