REMarks®

EXPANDING 99/4A HORIZONS

VOLUME 3 NUMBER 1 BIMONTHLY

PRESIDENT'S MESSAGE

The 99/4A Program Exchange is pleased to announce that despité Texas Instruments' withdrawal from the home computer market, WE ARE HERE TO STAY. We are still the lowest cost software organization for the 99/4A home computer in the world and we intend to stay that way. Although we will undergo a corporate name-change, our 99/4A division will continue to expand and serve 99/4A owners for many, many years to come. We will continue our dramatic catalog expansion at an ever increasing rate in the future months.

The following information may be of interest to you: Warranty and Repair - Texas Instruments fully stands behind its limited warranty on the company's hardware and software as stated in TI's owner's manual - one year for computer consoles and 90 days for all othe rhardware and all software. In addition, TI will maintain service capability for out-of-warranty repair.

TI CARES helpline - TI will continue to provide the toll-free helpline, 1-800-TI-CARES, on a six-day-a-week basis. Because of the heavy activity currently on the these lines, some delay may be experienced. In addition to providing information concerning operation and repair, Texas Instruments will also take orders while inventories last for sales of peripherals and software that 99/4A owners cannot locate through local retail outlets.

If you are not receiving copies of the TI newsletter and other important literature and you wish to receive them, send your name, address and 99/4A serial number to:

Texas Instruments
P.O. Box 53
Lubbock, TX 79408

Incidentally, a possible successor to the 99/4A has been established by the California-based hardware manufacturer called Cor-Comp, Inc. Called the 99/64, this computer is expected to be compatible with all 99/4A hardware and software and be in the $500 - $600 range. Why the relatively high price? Because you get 64K RAM, built-in RS 232, built-in disk controller, and a host of other features. What's more, this machine is expected to have incredible expandability and compatibility to other home/personal computer systems. Please stay tuned for more information to come!

FIVE-FOR-ONE PROGRAM EXCHANGE FEATURE

Another feature of The 99/4A Program Exchange is the five-for-one program exchange. Any member that submits a program that operates as intended without problems may choose five programs from The 99/4A Program Exchange Owner Written and Translated Software Catalog. The service charge for this five-for-one program exchange is $3.00 per program submitted.

The policy of the five-for-one program exchange is as follows:

1. We cannot accept programs which have appeared in the 99'er Magazine unless accompanied by permission from the appropriate copyright holders.
2. We cannot accept programs that are presently in our catalog or in our inventory. We also cannot accept a resubmission of a catalog program that we feel has not been substantially enhanced.
3. We cannot accept programs originally written in a T.I. BASIC language i.e., T.I. BASIC and Extended BASIC, that have been previously copyrighted by Texas Instruments or a third party.
4. We will accept a program that has been translated from another BASIC language such as Microsoft, Applesoft, Atari, etc., regardless of copyright.
5. We will accept a program that has been originally written by an owner/user that operates as intended, without problems, and has the potential of qualifying for our software catalog.
6. We cannot accept a series of programs in which each program is not substantially different than the other. Example: using the same central program with different DATA statements that have the same general purpose.
7. The service charge for the five-for-one program exchange is $3.00 per program submitted (non-refundable).
8. We can only accept up to two programs per submission for the five-for-one exchange.

When submitting a program, please follow the guidelines listed below:

1. Put the one or two programs for exhange on one cassette or diskette.
2. Print the names of the program(s) on the cassette or diskette.
3. Enclose a note describing the program name, programming language, system requirements etc. Additionally, write a short but concise description of the program.
4. Enclose an order form with the programs of your choice and a check or money order [$3.00 per program.]
5. Mail FIRST CLASS. Third Class costs the same [for one cassette or diskette] but takes much more time and often abuses the contents.

If you follow the above procedure, the exchange will be processed promptly. If you fail to put a return address on your cassette or diskette, we will not return it. Above all, carefully check the program prior to mailing for bugs or typographical errors. Be sure the program includes instruction and give it a little extra polish!

PROMOTIONAL OFFER

As of this issue, the Promotional Offer is NO LONGER EFFECTIVE. Please disregard any Promotional Offer forms that you may have. the 99/4A Program Exchange Inc. will reinstate the Promotional Offer in the future, pending analysis of the policy. We apologize for any inconvenience caused by this decision.

HIGH RESOLUTION PLOTTING

The 99/4A Program Exchange has received quite a few inquiries regarding the High Resolution Plotting subroutines contained within our catalog. Contrary to many beliefs, these are not stand-alone programs. They were designed for high resolution independent point plotting [256 by 192 pixels.] Our routine was one of the very first High Resolution Plotting routines available and is probably the fastest and most efficient one designed to operate in BASIC or Extended BASIC for the 99/4A. We have noticed several times when programmers have blatantly copied the routine and quite inappropriately given themselves the credit for it. Below is a line by line description of the routine and a small sample program:

1: Lines 1 through 10 are 'outside' of the routine. This line shows how the first use of CALL HPLOT initializes the routine for use with the first parameter representing the color of the pixels [points on the screen] and the second parameter representing the background color of the screen. In this case, the pixels are black (2) and the screen is cyan (8). Any further use of CALL HPLOT 'outside' of the routine will plot a point on the screen dimensions of 256 by 192 independent pixels. Do not go out of range - 0 to 191 for row [first parameter] and 0 to 255 for column [second parameter.]

2: This line is optional. Keep this line if you have Version 100 Extended BASIC and the memory expansion. Otherwise, delete the line. You can figure the version of your Extended BASIC module by typing CALL VERSION (X):: PRINT X while in Extended BASIC.

110: Tests to see if the initialization portion of the routine (120 to 230) has already been accessed during the current RUN. If it has, the computer jumps to the plotting portion of the routine (240 to 290).

120 to 130: Sets up an array that acts as a pointer for the sixteen character string in the CALL CHAR statement. The computer uses this array to determine which digit in the sixteen character string must be changed for the definition or re-definition of a character.

140 to 170: Sets up an array which contains all possible replacements for the digit in the sixteen character string which is to be changed. There are sixteen possible current values for the digit and four possible bit changes (0 to 3), thus H$ (16,3).

180 to 190: Sets up memory block for the 112 possible characters. An array was chosen over CALL CHARPAT to increase execution speed. The leading and trailing hyphens allow for quicker and easier access to the string functions.

200: HEX$ is used for reference to the sixteen hexadecimal digits. ASCII is used to reference the next character to be redefined.

210: Filling the screen with spaces is very important for this routine to operate properly. The computer will only plot properly on character 32 [in which case the computer will define and display a new character] or characters previously defined by the routine [not characters defined by the programmer using CALL CHAR.]

220: This line is absolutely unnecessary. It only serves to slow down the initialization process. We recommend that you delete this line completely. A line of this sort would only be necessary if the routine used a CALL CHARPAT method for obtaining the sixteen character pattern identifiers [see lines 180 to 190 above.]

230: Sets flag variable V to 1 so that the initialization procedure is not repeated in the same RUN. The computer then exits to the 'outside' or 'main' program.

240: R and C are the character row and column where the new pixel resides. These values are used for CALL HCHAR and CALL GCHAR. R1 and C1 are important values used for computing which of the four bits in the hexadecimal digit must be changed and which of the sixteen characters in the CALL CHAR string must be changed.

250: Scans a position on the screen and determines if a new character must be defined or if a character currently on the screen must be redefined.

260: The character to be changed in the sixteen character string is computed and stored in the variable D.

270: Not as complicated as it looks. New hexadecimal digit is computed and replaced [based upon previously computed values.] The appropriate character is now redefined using the new string.

280: The character is displayed [only has significance if the computer is displaying a new character.]

290: Hyphens are placed around the sixteen character string and the computer returns to the 'outside' or 'main' program.

The following is a short program that is an excellent example of the capabilities of this routine. It will plot a series of sign waves on the screen. Please note that the High Resolution Plotting routine does not check if the computer is going out of bounds [Extended BASIC can only access character 32 through 143] and error will result if it does. Therefore, the programmer must have a proof in the program to prevent an error from occurring. A good idea is to use ON ERROR and an error subroutine. Be sure to load High Resolution Plotting (XB) first and delete all lines prior to 100. When you use the routine with your own programs, you'll probably want to RESequence the routine starting at a greater line number [be sure to delete all lines prior to 100 before RESequencing.]

```
10 CALL HPLOT (16,2)! SETS UP ROUTINE AND COLORS
20 ON ERROR 70 ! CHECKS FOR OUT OF BOUNDS
30 ROW=10 :: FOR X=0 TO 50 STEP .25
40 COL=INT (120+50*SIN(X))
50 CALL HPLOT (ROW,COL)! PLOTS A POINT ON THE SCREEN
60 ROW=ROW+1 :: NEXT X
70 GOTO 70
```

MEDIUM RESOLUTION PLOTTING

Medium resolution plotting uses a method for plotting that is similar to the graphics capabilities of the TRS-80 personal computer line [excluding the TRS-80 Color Computer.] This method requires a built in character set and the ability to scan a position on the screen. T.I. BASIC compensates for these items with CALL CHAR and CALL GCHAR. The program consists of two parts - the initialization routine which is only accessed once and the actual routine for displaying a new character. The following is a line by line description of 6028.

1: This is 'outside' of the routine. It shows how the first use of CALL MPLOT initializes the routine for access with parameter one representing the color of the pixels and parameter two representing the screen color. Any further access to CALL MPLOT 'outside' of the routine will plot a point on the screen dimensions of 48 x 64 independent blocks [DO NOT GO OUT OF RANGE - 0 to 47 for row and 0 to 63 for column.] Lines 1000 to 1150 is the actual MPLOT subprogram.

1010: Tests flag variable V to determine if the routine has been initialized. If V=1 (yes) then branch to plotting routine.

1020: Fills screen with character 96. Routine can only plot on characters 96-111; plotting on characters out of range will result in error.

1030 to 1120: Defines 16 characters which are all possible combinations of a 2 by 2 matrix. Additionally, the array CHR is defined. It contains the ASC values for the appropriate characters to be displayed based on three parameters - character on screen [96 to 111 minus 95 resulting in a value 1 to 16] and location on 2 x 2 matrix where the new pixel will reside [0 to 1 for row and 0 to 1 for column.]

1130: Set flag variable to 1 so that initialization is not repeated.

1140: X (0 to 47) and Y (0 to 63) have their values altered in order to get the proper numbers for use with GCHAR and HCHAR. P1 (0 to 1) and P2 (0 to 1) are the location on 2 x 2 matrix where new pixel resides is computed. The screen is scanned at X,Y resulting in the variable CH which contains the ASC value at that position. The character CHR (CH-95,P1,P2) is then displayed via HCHAR at X,Y.

SPECIAL OFFER

Enclose the coupon below with your next order of $20 or more and receive two free programs. You must follow the guidelines below for the offer to be valid: 1) no photo copies; 2) one coupon per member; 3) coupon must be signed and accompany order; 4) order must be postmarked on or before April 23, 1984.

This coupon entitles the bearer to two FREE programs for any order of $20 or more. All of the above listed guidelines must be followed for this order to be valid. Expires 4-23-84.

Signature _____

DISKETTE INFORMATION

In previous newsletters we wrote about cassettes and cassette loading. Thus we thought in this newsletter we would pass on some information and experiences regarding flexible diskettes.

Manufacturing

Manufacturers have come a long way in building in lubrications, and variations in jacket material to allow for more expansion from heat. The better the quality of the disk, the better the performance and life. We have found Elephant Memory Systems diskettes to be an excellent product. We seldom have experienced problems using them. They are heavy-duty hub ring diskettes certified 100% error free, meeting or surpassing ANSI and industry standards. We recommend their use.

Storage and Packaging

The proper storage and packaging of diskettes is an important care and maintenance facet that the user can control. We recommend hard plastic library boxes for storage. The rigid quality of the box will protect the soft diskettes inside.

Diskette Enemies

Diskettes are sensitive to bending or folding. Their natural enemies include dust, smoke, dirt, static electricity or the user's finger prints. The most carefully manufactured diskette only remains good until someone sets a coffee cup or soda glass on the diskette, or cigarette ashes or snack particles fall on the exposed surface of the disk. Remember, the diskette can take only so much abuse before it proves worthless - the loss of your recorded data.

Disk Drives

The rewrite head (recording head) that is used by your disk drive is in contact with the surface of the diskette. Friction is created, wear results, and contaminates accrue on the rewrite head. If left unattended the diskette will lose its capability to record information. In order to combat this, we suggest that you use dust covers and utilize diskette cleaners. Diskette cleaners resemble diskettes and will give the rewrite head a gentle cleaning. A few minutes in preventive maintenance will help prevent a more serious problem later on.

Diskette Do's and Don'ts

1) Do not fold or bend diskettes.
2) Do not touch exposed areas of diskettes.
3) Keep diskettes away from magnetic fields and sources of static.
4) Insert diskettes carefully into the disk drive.
5) Always return diskettes to their envelopes after use.
6) Store diskettes in a hard library storage box.

RUN "CS1"

This is an undocumented command available in Extended BASIC. The command kills two birds with one stone - it will load a program from cassette as usual, then it will automatically RUN the program.

PROGRAM REVIEWS

Title: Fireball
Author: Cosmic Computer Corp.
Catalog Number: 4008
Language: Extended BASIC
Type: Arcade style educational
Requirement: Speech Synthesiser

Documentation

Excellent text throughout the program makes it exceptionally user friendly. Clear, concise operating rules are given.

Graphics and Operation

The program begins in deep, dark outer space with stars and fireballs passing by your command screen as you navigate to the doomed planet Tara in a far away galaxy. Upon arrival, you find a futuristic city that you must defend with your missiles against falling meteorites. The usuage of graphics is superb. All around fantastic graphics effects make this one of our best Extended BASIC programs.

Your object is to amass 350 points to save the city. The user may choose any one of three levels - beginner, daring or very difficult. You also have a choice of addition, subtraction and multiplication. A city skyline appears similar to New York and a problem appears as a meteor starts to fall. If you answer the problem correctly [and quick enough!] you earn your points and a missile is fired that explodes the meteor. If answered too late or incorrectly, part of the city is destroyed leaving rubble in place of sky scrapers. The skyscrapers and fireballs are realistic and quite professional. The explosions are super. Speech and sound are polished and appropriate.

Comments

Fireball is a polished program that will keep the interest of the person learning his or her basic math skills. You will have to be really quick [not to mention clever] to save the city when playing the most difficult level. We feel this program is an excellent mix of education and gamesmanship.

Title: Frogman
Author: Mat Smetana
Catalog Number: 1272
Language: Extended BASIC
Type: 'Frogger' Type Arcade

Documentation

The documentation for this program is adequate. Instructions are simple and complete.

Graphics

The graphics used by this program are excellent. The small frogs are animated as they move. The screen is very colorful with a great deal of motion. Randomly colored cars of several different designs travel in both directions at varying speeds and distances. The traveling lily pads and snake infested center divider are very well done also. The excellent usage of sprite motion and the computer's quick responses make this one of our best Extended BASIC programs.

Operation

The objective of the game is to jump your frog across a five lane super-highway, get beyond the snake infested center divider, move across the pond by jumping from lily pad to lily pad and jumping into one of the safe exit positions on the other side of the screen. You have five chances per game to earn the maximum of 250 points. The frog is moved by using the arrow keys.

The highway is very busy and requires a bit of skill to cross. Engossment is outstanding even though highway hypnosis may get your frog run over! Once you break every safety rule to cross the highway, you must jump onto a large green lily pad and jump from lily pad to lily pad in order to cross the pond. Additional obstacles include a snake-infested center divider and a limited number of safe exit positions on the other side of the screen.

Comments

We highly recommend this 'Frogger' type arcade game for all age groups. Operation is simple yet the engrossment level is very high. Although this game is very challenging, it is not impossible to win.

Title: Piggy Bank
Author: Gerald Heine
Catalog Number: 4040
Language: T.I. BASIC
Type: Education/Money Addition
Requirements: Speech Synthesiser & Terminal Emulator II

Documentation

The rules for game are displayed with the title screen. They are concise and understandable.

Graphics and Operation

On the top of the screen is a rectangular block which displays up to five different sums of money. The shapes, sizes and colors of the money are delightfully programmed. The object is to add the displayed sums and enter the result into the space provided.

The center of the screen displays a piggy bank with a space which displays the accumulated total of the different money problems. The object is to save $10.00 in the bank. When the sums of a problem are totaled and the correct amount of money is entered, a short musical fanfare greets the user. The total accumulated in the bank is then displayed and the computer announces the answer to the problem. The user then continues to another problem. If the entry is not correct, the computer will give the user another chance. Otherwise, the program will display the correct total and proceed to the next problem without adding to the accumulated total in the piggy bank. When you reach the $10.00 objective, you win and are rewarded with the piggy bank flashing colors and an announcement by the computer of your success.

Comments

We feel the program will keep the interest of the youthful user. It is an excellent way to teach money counting with pennies, nickels, dimes, quarters, half dollars and dollar bills. Other important values include the concept of counting change and saving money.

Title: Letters and Numbers
Author: Ken Hinze
Catalog #: 4100
Language: Extended BASIC
Program Type: Educational
System Requirements: Extended BASIC, Speech Synthesizer

This Program was inspired by George Blank's "Nine Games for Preschool Children." It containes a menu of four separate

games: 1) Guess the Number, 2) Find the Letter, 3) Type Your A B C's, 4) Addition Problems.

A major highlight of this program is excellent usage of speech throughout all of the games. It is just like having a teacher talk to the preschooler. In addition, the computer makes use of musical scores to increase the level of interest for the user.

Game 1. "Guess the Number" displays a random number of large stars in a rectangle in the middle of the screen. The computer then asks you to guess the number. The preschooler will then press a number key. If correct, the computer will state the number, play some music, and perform some graphics.

Game 2. "Find the Letter" displays a random lower case letter in the center of a large colored rectangle with the speech synthesizer saying, "press this key." If the correct key is pressed, the letter is stated, music plays, and colors are flashed. If an incorrect key is pressed, you hear, "Oh! Oh! Wrong Key." The alphabet graphics are excellent.

Game 3. "Type Your A B C's Please" enters the alphabet in order as you press each key. After pressing A, for example, the computer will name the letter and reward you with an encouraging phrase such as, "That's Right!" If you are wrong, you hear, "Oh! Oh! Try Again!"

Game 4. "Addition Problems" shows the Arabic numerals in the center of the screen. To the left are colored squares equaling the addends to enable the preschooler to associate the number of things with the numeral itself. After you input the answer, the computer very clearly states the problem and answer, such as, 2 and 4 are 6. A musical score is played and two figures move across the screen. If you do not input the correct answer, the computer lets you know by saying, "Oh! Oh! Try Again!"

All in all this is a great, educationally sound program. The only unpolished part of this entire program is the method you must use to gain access to the menu to choose another game. You must use FNCT CLEAR and RUN.

Title: Invasion
Author: Torsten Nienietz, West Germany
Catalog #: 1203
Language: T.I. BASIC
Program Type: Arcade Game
System: None

After being treated to randomly produced color changes, the game of Invasion graphically presents itself. To the top of your screen is a broad black bar upon which five invaders are perched. On the bottom of the screen is a similar black bar with a large black rectangle and directly below the left end of the bar sits a beautifully designed laser tank cannon.

From the black bar below and directly below the right side of the top bar emerges an invader attempting to reach the top. Without fail, the laser cannon fires and disentegrates each invader. Watching this little demonstration makes the game look simple and easy. Simple yes, but not easy!

When you press the space bar to begin your game, wait momentarily as the computer sets everything in order. Now all you do is press the 'F' key to fire as the invaders emerge and rise up. But all is not easy with these clever invaders: They utilize random and changing speeds and jumps. More clever yet, when they get through and perch on the top bar, they move to the left. When enough get through and the top bar is full, the invader to the left drops off and suicide attacks your cannon from the top. The cannon disentegrates and the game is over.

The game is challenging and quick enough to play again and again. Parenthetically, your score is graphically shown to the right of the screen and never seems to get very high! We might also add this program will run in Extended BASIC which results in a much higher execution speed.

Title: Alien Ambush
Catalog #: 1298
Language: Extended BASIC
Program Type: Arcade Game
System Requirements: None

The object of this fast moving arcade type game is to destroy the oncoming aliens as they drop from the top of your screen and invade your landscape. Each alien you fail to destroy shortens a broad white line that stretches across the top of your screen - in essence your life line.

You maneuver your laser battery to the correct trajectory and fire! Success is demonstrated by a neat explosion, disintegration of the Alien and an additional 10 points in your score. You can choose any of 10 skill levels, thus making this game suitable for all ages.

The graphics are delightful and professionally programmed. Most of the screen is dark, depicting space, with the white life line above and a thick white earth below. White astroids randomly sail through space. Aliens of differing, intricate design and clever animation fall into space and descend towards earth. It is now or never! Scan the skies, locate the alien, maneuver your laser battery and fire to destroy. If you're quick enough, you can earn the high score! This fast action Extended BASIC arcade game will engross the family for hours. By selecting a range of difficulty levels, this program becomes suitable for all ages and skill levels.

Title: Othello
Author: Alan George / Updated by John Larrison
Catalog #: 1039
Language: T.I. BASIC
Program Type: Strategy Game
System Requirements: None

Even though this program is one of our oldest and written in T.I. BASIC, we still consider it an excellent candidate for review. The program's major fault is the lack of adequate instructions for the user. This review should enable the user to operate and enjoy this strategy game from the start.

Othello is a two player game in which the object is to occupy a majority of squares on the graphics board. To indicate which square you plan to occupy, just use the arrow keys. For example, If you want to occupy the square intersected by the 4th column and the 6th row, just tap the left arrow key four times, and the down arrow key six times. A change of color from white to black or vice-versa indicates which player is to move. In addition, the computer holds a running score of square control throughout the game. One of the novel features of this program is that the user has the option of playing the game in any of 13 color choices. We preferred magenta!

The graphics in this program are exceptional. It is very obvious that quite a lot of time and effort went into programming them. The simulation of three dimensions is well done and makes this program very pleasant to the eye. We are sure that this program will give your family hours of fun.

Title: Othello II
Author: Crawford Cook
Catalog #: 1068
Language: T.I. BASIC
Program Type: Strategy Game
System Requirements: None

Even though we reviewed Othello in this issue of our newsletter, we felt it would be helpful to review Othello II as well. This program has excellent documentation, listing the instructions in detail. Even though the object of the game is the same as the other Othello program, that is, to occupy a majority of squares on the board, there are some differences.

The major difference is that the user may optionally choose to

play the computer on any one of three difficulty levels. We have found level three to be very challenging and difficult to win. In addition, the user may optionally play a human opponent. Although the graphics aren't as spectacular as the other Othello program, this program is much more versatile.

The operation of this game is by numbers. If you want to occupy the square intersected by the 6th column and the 3rd row just enter 6 - 3, and it's accomplished. If you somehow enter an illegal move, you are noticed by a 200 hertz tone.

The graphics are adequate and the color selections of red and yellow allow for a pleasant contrast. Once again, the program operates smoothly and will engross all members of the family for hours at a time.

Title: Space Scout
Author: G. Rabin
Catalog #: 1032
Language: T.I. BASIC
Program Type: Arcade Game
System Requirements: None

Deep within the Asteroid belt, valuable cargo modules have been accidently dispersed and you must recover them for the Federation. Your object is to score points to advance to a higher level of difficulty by picking up all of the cargo modules in as short a time as possible. In addition,you must also avoid hitting asteroids and running out of fuel.

The four arrow keys determine the direction of your spacecraft. Bonus points are given for docking with the mothership and you also receive extra fuel - but just enough. Every time you hit a key you burn fuel, so be careful! Reach the 1000 point level and you are rewarded with a much more difficult task.

You lose this challenging game if you hit an astroid, run out of fuel, or maneuver out of bounds. However, the play is fast enough to try again and again.

The space screen graphics include a space ship and module and numerous asteroids and cargo modules that are randomly placed for each new game. To the right of the screen is your fuel gage, time measure, and running score. All of the items are tastefully programmed.

Instructions are excellent and the game is exceptionally fast for T.I. BASIC. Of note is that this program will run in Extended BASIC which results in a much faster execution speed and access to the speech option which normally requires the Speech Editor Command Module. We really like this game and highly recommend it to all who enjoy a good game.

Title: Cootie Math
Author: Mike South / Enhanced by Joe Bartle
Catalog #: 4105
Language: BASIC
Type of Program: Educational
System Requirements: None

This highly motivating educational game is based on the famous parlor game of 'Cootie.' The difference here is that the factor of luck is replaced by the factor of mathematical skill. As with the normal game, you must be the first to build a Cootie bug which consists of a body, mouth, head, two eyes, two antennae and six legs. You may choose any of the four basic math areas: Addition, Subtraction, Multiplication, or Division. With each correct answer on a given turn, the user will be able to add another part to their Cootie bug.

Either one or two people can play at a time and there is an option of selecting one of five levels of difficulty. One of the nice characteristics of this program is the strong reinforcement of a correct answer, even if the user fails to answer the problem correctly several times.

The graphics are colorful, tastefully programmed and pleasant to the eye. In addition, the computer offers some inspirational music to motivate the user.

Of more importance is the versatility of the program and the challenge it provides for the young math student. Interest and motivation is bult in, thus diminshing the ever present drudgery in the traditional method of learning by pencil and pad. The reward of earning parts of the cootie through excellence and the chance of the dice roll all add up to a plus. We highly recommend this educational game. It should help all young math students.

Title: Alphabet Soup
Authors: Bruce and Dee Urban
Catalog #: 4076
Language: T.I. BASIC
Program Type: Educational
System Requirements: None

This is just the program the doctor ordered for the preschooler. It will help teach the alphabet, help facilitate letter recognition, and help familiarize the learner with computer keyboard configuration.

The program is well done. Color is used generously and the graphics are appropriate. From the large block letters, to the educational soundness, and everything in between, you have an excellent learning situation.

The preschooler has three separate exercises to perform with the help of someone older:
1) The display of the alphabet, letter by letter in large block print with lively contrasting colors helps teach the alphabet.
2) The locating of the correct letter key on the keyboard to match the graphically displayed letter helps letter recognition.
3) The random display of letters is designed to help the youngster learn the computer keyboard configuration.

All in all, we feel this program will interest and motivate the preschooler for a pleasant and rewarding period of time. Success will increase the attention span and allow the learner to advance more quickly. Reading, here we come. Maybe typing will come very soon.

Title: Super Fly
Language: Extended Basic
Type: Educational Game

Graphics

Super Fly has super graphics. The program starts with tastefully designed numbers and letters randomly flashing through the screen in colorful fashions, finally proclaiming the title Super Fly. Graphic demonstrations of elementary addition and subtraction problems including carrying for addition and borrowing for subtraction are shown in a very clear, sound, format. During the program the small twirling French Fly will transform into the flamboyant, racy Super Fly, or at other times into Skull Man. Throughout the program there is rather extensive use of graphics and color.

Operation

The concept of this program is to reward the elementary student with delightful colorful graphics, sounds, and music for answering all four problems correctly. The program first gives a demonstration of an addition problem which includes carrying to the next column. Then a subtraction problem is demonstrated with the concept of borrowing. After the teaching demonstrations are completed, the screen gives 4 problems to solve. If they are solved correctly, the reward is flashing graphics and sounds showing the champion Super Fly flash across your screen.

If you miss any of the four problems, French fly turns to Skull Man and a rather bizzare screen, sounds, and noises are emitted. The problem is crossed out and then the correct answers are displayed.

Comments

It's fun to practice basic addition and subtraction problems and be treated to a variety of rewards for success and bizarre emissions for failure. This approach is fun, colorful and tasteful. We highly recommend this program for the primary grade student. What would normally be hours of drudgery are transformed into computer learning fun that works.

Title: Projectile Problems
Author: M. Wade
Catalog #: 4036
Language: Basic
Type: Education/Physics

Graphics

Nice Graphics displayed for the four types of missile problems the program presents and teaches. For ground to ground problems we see two race cars a two lane race way and a finish line. Two dimensional ground to ground problems are accompanied by a cannon and a distant target. Balloon to ground problems display a balloon and a ground target. The fourth type of problem, building to ground, exhibits an elevated cannon and target. The graphics are excellent.

Operation

Projectile Problems starts off with an excellent set of instructions and a concise description of the necessary elements necessary to solve the problems. The following areas are listed: acceleration, horizontal range, velocity, displacement, maximum height, time of flight, and degree or angle.

Helpful formulas are also reviewed, listing the following:

1) VF = A * T + VI
2) VF ^ 2 - AI ^ 2 = 2 * A * S
3) S = (1/2) * A * I ^ 2
4) S = V(AVE) * T

You choose the type of projectile problem you plan to practice and answer the questions the computer generates. If you answer successfully, you are rewarded with a clever complimentary statement. On the other hand, if your answer is not within an acceptable range of proximation, the computer lets you either try again or get the correct answer.

Comments

If you're a physics student or a person who relates to math formulas and projectiles, this program is quite sophisticated, well formated, and utilitarian. With excellent graphics and clever responses, the user can not only learn but enjoy it with the computer's ability to enhance the subject.

Title: Color Logic
Catalog #: 1325
Author: Lynn Atkinson
Language: Extended BASIC
Type: Logical Deduction

Graphics

The screen fills with a colorful game board excellently designed. A large question mark or arrow helps direct the game. Color combinations are neat and attractive. The graphics are simple, yet well organized.

Operation

The game allows you to select either a mode to play against the computer or a mode in which two players compete against each other in solving the computer's secret selections. You are given a set of very complete and concise instructions and rules. You select any combination of colors for your choice, and in the meantime the computer chooses its secrets. Now it's time to use your logic and duplicate the computers secret selection.

There are three levels of difficulty [i.e., the time the computer allows you to figure out and enter your selections] - easy, tough, and impossible. Even the first level is a super challenge because the computer is so good. After entering your choices, the game board indicates the correct number of colors and positions. Now its the computers turn! After several turns you notice numbers flashing as the computer computes and selects its choices. The numbers represent the number of possible answers left - what sophistication! Meanwhile you rack your brain and try to beat the computer. You had better by your 4th try or the computer will win.

The game board indicates the cumulative score of both players based upon the number of guesses made in order to solve the puzzle.

Comments

If you like logic games, this game is the one for you. The sophistication presented by this program with its great graphics and superior format lends itself to a super high engrossment level. You'll never tire, you'll always be challenged.

EXTENDED BASIC EXECUTION SPEED

Are your Extended BASIC programs executing far too slow? The problem may be the version of the Extended BASIC module which you are using. The older Extended BASIC modules (version 100) in some cases execute the program code much slower than the newer modules. In some cases, the newer modules execute twice as fast as the older modules! To find out if you have the older module, type CALL VERSION(X):: PRINT X while in the Extended BASIC monitor. If 100 prints out on the screen, you have the old module. If you have the 32K RAM expansion, the problem can be solved easily with the following information:

1. if the program makes no use of sprites add this line to your program: 1 CALL INIT :: CALL LOAD (-31878,0). This will increase the execution speed of your program considerably. Note: be sure line 1 in the program isn't being used or isn't required.

2. If the program includes sprites, use the statement 1 CALL INIT :: CALL LOAD(-31878,n) where n equals the highest sprite value used in the program. Also, if the program uses the statement CALL DELSPRITE(ALL), replace it with CALL DELSPRITE(#1,#2,#3,...#n) where n equals the highest sprite value used in the program.

It is important to note that the higher execution speed makes the programs far more satisfactory to the user and therefore increases the usefulness of your computer system.

DEFECTIVE DISK OR CASSETTE

If you experience a problem loading a program, please read the information page in our software catalog. This page covers just about every possible problem that may occur while loading or operating a program. However, if you received the wrong number of programs or you are absolutely sure that the problem can't be solved with the information page, please write us and we will promptly give you a solution or replacement programs. Do not send cassettes or diskettes back. If you require replacement programs, we will send you a new cassette or diskette promptly.

UNWANTED GRAPHICS

On occasion, users may notice unwanted graphics when operating an Extended BASIC program. The unwanted graphics appear as characters defined in previously used programs, or as the characters predefined by the computer. If you notice this problem, first type **FNCT CLEAR,** then type the following:
>FOR X=96 to 143 :: CALL CHAR (X,""):: NEXT X:: RUN (ENTER)

STATIC ELECTRICITY PROBLEMS

We at The 99/4A Program Exchange have found an excellent substitute for commercial anti-static preparations. DOWNEY fabric softner put in a spray bottle and then applied to the necessary areas does an excellent job of combatting static electricity problems. You'll probably prefer to use it since it is less expensive and easier to obtain than commercial anti-static preparations.

ALPHA LOCK

When using joysticks on the 99/4A, be sure ALPHA LOCK is released. When the computer requests you to enter a letter, be sure SHIFT or ALPHA LOCK is engaged unless the computer specifically requests you to enter lower case letters [which appear as small upper case.]

DEMONSTRATION PROGRAM

We are now offering a new and unique demonstration program. The program plays the Japanese song Kojo No Tsuki which translates to Moon Over the Castle Ruin. During the execution of the program, the screen depicts an ancient castle ruin with a bright moon overhead. The unique thing about this program is the highly unusual musical effects which the computer generates. It's an excellent example of 99/4A's sound synthesis abilities. To order, specify: **2050 KOJO NO TSUKI.**

AVAILABLE RAM FROM T.I. BASIC

Th following routine can be very useful to T.I. BASIC programmers. The routine will determine the amount of RAM available from T.I. BASIC.

```
> 1 M=M+8
> 2 GOSUB 1
> RUN
  *MEMORY FULL IN 1
> PRINT M
```

The screen will now display approximately how much memory in bytes is available.

T.I. FORTH AVAILABLE

For those members of the 99/4A Program Exchange interested in having a copy of the T.I. FORTH language, it is now available through us. Texas Instruments relinguished all proprietary claims to the T.I. FORTH language to the public for free use. It should be understood that the T.I. FORTH language is not subject to any warranties of fitness, either expressed or implied by T.I. Any use of the T.I. FORTH language is specifically at the discretion of the user who assumes the entire responsibility for such use.

The materials include a T.I. FORTH system diskette and a manual containing well over 200 pages. To operate the T.I. FORTH language, you must have the following equipment: 32K memory expansion card; disk controller card; at least 1 disk drive; editor/assembler command module.

An RS-232 and printer are optional equipment, if you want print-out capability. To order, send $12 payable to the 99/4A Program Exchange along with the coupon below. This fee is designed to defray the cost of the diskette, manual, postage and processing.

I have enclosed $12 for my copy of the T.I. FORTH language and manual.

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payable to: The 99/4A Program Exchange
P.O. Box 3242, Torrance, CA 90510

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