fxNEWS
Support for all Casio fx-9860G models

Programs

This second edition of fxNews contains 23 new programs in file **PROG06V2.g1m** and all 31 (now password protected) programs from the March 2006 issue in file **PROG06U1.g1m**. Several minor updates have also been made to some of the 31 programs from the first issue, and these are detailed at the end of this document.

All updates will automatically be installed into your fx-9860G if you follow the installation instructions supplied on this CD. Full explanation is given in the Installing Updates document.

NEW! fxNews programs are now all **password protected** (password is *FXNEWS*) in order to help prevent accidental corruption of the program code. When users press AC then EXIT to break out of program execution, the fx9860 immediately enters program edit mode and it is easy to add or delete code before the user realizes what is going on! Password protection prevents this from happening.

Programs are designed to enhance the capability of the fx-9860 graphics calculator. Some programs are simply utilities to speed students through their tests ands exams. Programs such as AP and GTHDECAY come to mind here. AP solves problems involving arithmetic progressions whilst GTHDECAY takes two or more points from exponential growth or decay data and displays the relationship in the form $y = a(r)^x$.

Another group simply help with common mathematical needs such as finding the HCF or LCM of two numbers or the prime factorization of a single number.

Other programs set out to help the learning process, often taking the tedium out of repetitive calculations and keeping the focus on the bigger picture. MAV is an example here. The analysis of time series data using moving averages is very time consuming. The use of MAV enables students to quickly explore the choice of a suitable number of points per cycle and then calculate seasonal components.

This collection also includes some more simulation programs for lower school such as LOTTO and ROLLS. LOTTO simulates drawing six numbered balls from forty-five whilst ROLLS simulates throwing a regular six-sided die repeatedly until a chosen number appears.

Below is a brief description of each program in file **PROG06V2.g1m**.

Name	Description
AP	Finds, solves and tabulates arithmetic progressions.
DTF	Enter any decimal number to find exact (or nearest) equivalent fraction to tenth decimal place. Useful for recurring decimals and those the F-D key doesn't work with.
FACTORS	Finds and lists all the factors of any number.
GTHDECAY	Enter two or more data points to find the equation of exponential growth or decay in the form $y = a(r)^x$.
HCF	Finds Highest Common Factor of any two numbers.

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HEADS	Cumulative probability of tossing a coin 99 times and recording the number of heads. Relative frequency is graphed.
LCM	Finds Lowest Common Multiple of any two numbers.
LINEQN	Solves ax+b = cx+d given a, b, c and d.
LOTTO	Simulates a 45 ball Lotto game.
MAV	Enter time series in Lists 1 and 2, set period and this program returns graphs, moving averages, residuals, seasonal components, future values, etc.
MINILOTT	In MiniLotto you choose 2 different numbers (scores on a die from 1, 2, … 6), run some draws and see how many matches come up.
NUMSEQS	Generates a list of up to 50 terms of the Fibonacci sequence or the first 250 prime, square or triangle numbers.
PRIME	Determines whether a number is prime or composite.
PRIMFACT	Finds all prime factors of a number in power form.
PROPORTN	Solves a/b = c/d for c given a, b and d. Visual representation of solution using similar triangles.
REPAY	Generates complete loan repayment table (or individual row of table) for situations such as a loan of $1000 at 7%pa that is repaid by monthly installments of $80.
ROLLS	Simulates rolling a die until a chosen number appears.
RUNS	Simulates tossing coin and recording runs of consecutive heads. Results displayed in table and graph.
SAVING	Similar to Repay only this program generates a table to show how savings grow when a regular payment is added to an initial amount with interest compounded at regular intervals.
SIMEQN	Solves simultaneous equations in the form y=ax+b and y=cx+d given a, b, c and d. Explains solutions when lines are parallel or identical.
SIMGRAPH	Graphs solution of simultaneous equations in the form y=ax+b and y=cx+d. Illustrates results from SIMEQN.
SOCCER	Simulates any number of Soccer matches for a team and records match and goal summary, displayed in table and graph.
TOSSES	Choose how many coins to toss per trial and how many trials. This simulation then displays the number of heads obtained in a table and graph.

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Updates!

Below is a brief description of updates in file **PROG06U1.g1m**. (This file contains ALL the programs from the first edition besides these updates).

Name	Description of update
2PT LINE	Equation of line now also given as ax + by = d (rather than ax + by + d = 0).
FINDRULE	No longer need to enter points in stats mode first. Simply run program and follow prompts.
GP	When two possible progressions found, user now prompted for single value of r to use. Can change choice by choosing F6 option (Rule) and proceeding to last screen.
LINEAR	Equation of line now also given as ax + by = d (rather than ax + by + d = 0).
TRISOLVE	Minor change to screen display. Now uses EXIT key to quit program rather than the EXP key.

A few other programs have had some minor screen display issues fixed.

All programs – updated and originals - have been password protected.

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