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How To Create A Program
On T.I.-92 Calculators

HOW TO CREATE A PROGRAM ON T.I.-92 CALCULATORS

Here it is a program created on T.I.-92 Graphing Calculator to simplify a given fraction. The program has two inputs: N (the numerator) and D (the denominator) of the initial fraction, and two outputs: a (the numerator) and b (the denominator) of the simplified fraction. Also, the program tells you if a fraction is undefined.

The steps are the following:
- press APPS   (applications);
- move the menu bar down and select 7: Program Editor;
- press Enter;
- move the new menu bar down and select 3: New (new program);
- press Enter;
- move this other menu bar down (using ⇩) to: Variable and

type your program's name, say FRACT (fraction);
- press Enter twice;

the first two lines of your program and the last line of the program are displayed on the screen ; type n, d on the first line in between the empty parentheses of the title, i.e. FRACT (n,d),

where n,d are parameters of the program

(n is the numerator, d is the denominator);
- press F2 and select 9: © (which meens comment :

it is ignored by the calculator, but is useful to someone reading the program);

type: This program simplifies a fraction.
- press Enter to move down to the next line;
- press F3 and select 2: Disp (display);
- press Enter; hence Disp will be pasted up in the program;
- type on the same line "N=", n , "D=", d, where N is the numerator and D the denominator of the fraction;
- press Enter for moving again to the next line;
- press F2 and select 2: If ... then ;
press Enter and select 2: If ... then ... else ... endif,
press Enter again ;
on the screen you will get three new lines (related to IF instruction);

type, after If, d = 0
- press F3 and select 2: Disp ;
press Enter ;
- type "undefined fraction";
- use the ↓ arrow to move to the next line after **Else**
- type n/(gcd (n,d)) → a ;
you get gcd from 2nd MATH , then select 1 : Number , then select
C: gcd(; gcd is the greatest common divisor ;
you get →, wich means store, from STO→ ;
- similar thing; type on the next line: d/(gcd (n,d)) → b
- press Enter ;
- press F3 , select 2: Disp , press Enter ;
type "Simplified fraction is" ;
- on the next line: press F3 , select 2: Disp , press Enter ;
- type a, "/", b
- type 2nd Quit to exit the program.

<center>*</center>

The program will look on the screen in the following way :

: fract (n,d)
: Prgm
:© This program simplifies a fraction.
: Disp "N=", "D=", d
: If d=o Then
: Disp "Undefined fraction"
: Else
: n/(gcd (n,d)) →a
: d/(gcd(n,d))→b
: Disp "Simplified fraction is"
: Disp a, "/", b
: EndIf
: EndPrgm

<center>*</center>

Now, **to call the program** , in the home page, type :
FRACT (8,0) and press Enter .

The answer, you'll get, is: <u>Undefined fraction</u> , because $\dfrac{8}{0}$ is

undefined. Press 2ⁿᵈ Quit to exit the Prgm IO 's page.
Try again by typing, for example :
FRACT (42,54) and press Enter .
The new answer on the screen is :

> N =
> 4 2
> D =
> 5 4
> Simplified fraction is
> 7
> /
> 9

i.e. $\dfrac{42}{54} = \dfrac{7}{9}$.