

```

[ > restart:
[ > ggTrek:=proc(x::integer,y::integer)
    if x<0 or y<0 then
        return procname( abs(x), abs(y) );
    end if;
    if y>x then
        return procname( y, x );
    end if;
    if y=0 then
        return x;
    end if;
    procname( y, x mod y );
end proc:
[ > ggTrek(3,a);
Error, invalid input: ggTrek expects its 2nd argument, y, to be of type
integer, but received a
[ > ggTrek( 12, 15 );
                                     3
[ > trace(ggTrek);
    ggTrek( 12, 15 );
                                     ggTrek
{--> enter ggTrek, args = 12, 15
{--> enter ggTrek, args = 15, 12
{--> enter ggTrek, args = 12, 3
{--> enter ggTrek, args = 3, 0
<-- exit ggTrek (now in ggTrek) = 3}
                                     3
<-- exit ggTrek (now in ggTrek) = 3}
                                     3
<-- exit ggTrek (now in ggTrek) = 3}
<-- exit ggTrek (now at top level) = 3}
                                     3
[ > `mod`:=modp:
[ > ggTiter:=proc(X::integer,Y::integer)
    #if x<0 or y<0 then
    # return procname( abs(x), abs(y) );
    #end if;
    #if y>x then
    # return procname( y, x );
    #end if;
    #if y=0 then
    # return x;
    #end if;
    #procname( y, x mod y );
    local x,y;
    x:=abs(X); y:=abs(Y);
    if y>x then x,y:=y,x; end if;
    while y>0 do
        x, y := y, x mod y;
    end do;
    # Jetzt ist y=0 !
    x;
end proc:
[ > ggTiter( 12, 15 );

```

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[                                     3
[ > trace(ggTiter);
[   ggTiter( 12, 15 );
[                                     ggTiter
[ {--> enter ggTiter, args = 12, 15
[                                     x:= 12
[                                     y:= 15
[                                     x,y:= 15, 12
[                                     x,y:= 12, 3
[                                     x,y:= 3, 0
[                                     3
[ <-- exit ggTiter (now at top level) = 3}
[                                     3
[ > untrace(ggTrek): untrace(ggTiter):
[ > X:=rand(10^1000..10^1001)():
[   Y:=rand(10^1000..10^1001)():
[ > st:=time():
[   to 100 do ggTrek( X, Y ); end do:
[   time()-st;
[                                     9.524
[ > st:=time():
[   to 100 do ggTiter( X, Y ); end do:
[   time()-st;
[                                     7.210
[ > eea:=proc( X::integer, Y::integer )
[   local x,sx,tx,y,sy,ty,q,r;
[   x:=abs(X); sx:=1; tx:=0;
[   y:=abs(Y); sy:=0; ty:=1;
[   while y<>0 do
[     q:=iquo( x, y, 'r' );
[     x,sx,tx, y,sy,ty := y,sy,ty, r,sx-q*sy,tx-q*ty;
[   end do;
[   x,sx,tx;
[ end proc:
[ > eea(12,15);
[                                     3, -1, 1
[ > X:=rand(1000..2000)():
[   Y:=rand(1000..2000)():
[   eea(X,Y);
[                                     1, -409, 585
[ > -409*X+585*Y;
[                                     1
[ >

```