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Maple 9 (IBM INTEL LINUX)
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Type ? for help.

> interface(screenwidth=120);
> bete:=proc(n)
>   i:=3;
>   a:=0;
>   while (i<evalf(sqrt(n)))
>     do if (n mod i) <>0 then i:=i+2
>       else a:=i;i:=n;
>       fi ;
>     end do;
>   if a<>0 then a; else n fi;
>   end proc;
bete := proc(n)
local i, a;
i := 3;
a := 0;
while i < evalf(sqrt(n)) do if n mod i <> 0 then i := i + 2 else a := i; i := n end if end do;
if a <> 0 then a else n end if
end proc

> pollard := proc(n)
>   local x,y ;
>   x:=1; y:=x ;
>   while member( (igcd(y-x,n) , {1,n} ) ) do
>     x:=x^2+1 mod n ;
>     y:=(y^2+1)^2+1 mod n ;
>     od ;
>   igcd(y-x,n);
>   end proc;
pollard := proc(n)
local x, y;
x := 1;
y := x;
while member(igcd(y - x, n), {1, n}) do x := (x^2 + 1) mod n; y := ((y^2 + 1)^2 + 1) mod n end do;
igcd(y - x, n)
end proc

> N:=nextprime(10^8)*nextprime(2*10^8):pollard(N);
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> #pollard est en O(sqrt(p)) ssi la fonction suivante est bornee.
> comptep:=proc(n)
>   local x,y ;
>   x:=1; y:=x ; j:=0;
>   while member( (igcd(y-x,n) , {1,n} ) ) do
>     x:=x^2+1 mod n ;
>     y:=(y^2+1)^2+1 mod n ;
>     j:=j+1;od ;
>   evalf(j/sqrt(igcd(y-x,n)));
>   end proc;
comptep := proc(n)
local x, y, j;
x := 1;
y := x;
j := 0;
while member(igcd(y - x, n), {1, n}) do x := (x^2 + 1) mod n; y := ((y^2 + 1)^2 + 1) mod n; j := j + 1 end do;
evalf(j/sqrt(igcd(y - x, n)))
end proc

> l:=[];
l := []

> for i from 4 to 30 do
N:=nextprime(rand(3^(i))())*nextprime(rand(2^(i+1))()):l:=[op(l),comptep(N)];
end do;l;
bytes used=4000144, alloc=2948580, time=0.10
bytes used=8001048, alloc=3603820, time=0.21
bytes used=12001392, alloc=3800392, time=0.32
bytes used=16002024, alloc=3931440, time=0.43
bytes used=20002304, alloc=4062488, time=0.54
bytes used=24002960, alloc=4062488, time=0.66
bytes used=28003508, alloc=4062488, time=0.77
bytes used=32003956, alloc=4128012, time=0.88
bytes used=36004680, alloc=4128012, time=0.98
bytes used=40005056, alloc=4128012, time=1.09
bytes used=44005348, alloc=4128012, time=1.20
bytes used=48005576, alloc=4128012, time=1.32
bytes used=52005932, alloc=4128012, time=1.43
bytes used=56006216, alloc=4128012, time=1.54
bytes used=60006528, alloc=4128012, time=1.65
bytes used=64006984, alloc=4128012, time=1.76
[1.341640786, 1.109400392, 1.206045378, 1.093216333, 0.6426268617, 0.9004192978, 0.1745012032, 1.301688731,
0.6657212736, 0.1312985728, 2.434828526, 0.5742449913, 1.374579338, 1.091920066, 0.4789768610, 0.9588420601
0.7356555930, 0.5637695789, 0.6236264814, 1.560968876, 1.874778326, 0.7663379979, 0.1970552475, 1.1834876765
0.4514065634, 0.4860076564, 0.08716729895]

> P:=i->product(l-j/p,j=1..i-1);

                                         i - 1
                                         -----
                                         ,
                                         |
                                         |
                                         j = 1

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