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This program computes x such that f(x) = 0 ,
where f(x) is an N-th order polynomial equation
with coefficients
A[i] for (i = 0 to N)
and g(x) = df(x)/dx ;
Guess x[k] for k = 0
and then the program computes recursively
x[k+1] = x[k] - f(x[k]) /g(x[k])
until you stop the program by typing-in "s"
or you type "g" for the next guess for x[0] ;

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Type "s" to stop program.

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Type "g" to start the next guess.

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N=2
A[0]=-2.000000
A[1]=0.000000
A[2]=1.000000
x[0]=1.500000

```

k	x[k]	fx[k]	ffx[k]	gx[k]
0	1.500000	0.250000	3.000000	1.416667
1	1.416667	0.006944	2.833333	1.414216
2	1.414216	0.000006	2.828431	1.414214
3	1.414214	0.000000	2.828427	1.414214
4	1.414214	0.000000	2.828427	1.414214

```

***** Next Guess *****

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h = 1.000000

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x[0] = 5.000000

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k	x[k]	fx[k]	ffx[k]	gx[k]
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0-1-14

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0 5.000000 23.000000 10.000000 2.700000
1 2.700000 5.290000 5.400000 1.720370
2 1.720370 0.959674 3.440741 1.441455
3 1.441455 0.077794 2.882911 1.414471
4 1.414471 0.000728 2.828942 1.414214
5 1.414214 0.000000 2.828427 1.414214
6 1.414214 0.000000 2.828427 1.414214
7 1.414214 -0.000000 2.828427 1.414214
```

\*\*\*\*\* Next Guess \*\*\*\*\*

h = 1.000000

x[0] = 1.000000

k	x[k]	fx[k]	ffx[k]	gx[k]
0	1.000000	-1.000000	2.000000	1.500000
1	1.500000	0.250000	3.000000	1.416667
2	1.416667	0.006944	2.833333	1.414216
3	1.414216	0.000006	2.828431	1.414214
4	1.414214	0.000000	2.828427	1.414214
5	1.414214	0.000000	2.828427	1.414214
6	1.414214	-0.000000	2.828427	1.414214

\*\*\*\*\* Next Guess \*\*\*\*\*

h = 1.000000

x[0] = -3.000000

k	x[k]	fx[k]	ffx[k]	gx[k]
0	-3.000000	7.000000	-6.000000	-1.833333
1	-1.833333	1.361111	-3.666667	-1.462121
2	-1.462121	0.137798	-2.924242	-1.414998
3	-1.414998	0.002221	-2.829997	-1.414214
4	-1.414214	0.000001	-2.828428	-1.414214
5	-1.414214	0.000000	-2.828427	-1.414214
6	-1.414214	-0.000000	-2.828427	-1.414214
7	-1.414214	0.000000	-2.828427	-1.414214
8	-1.414214	-0.000000	-2.828427	-1.414214
9	-1.414214	0.000000	-2.828427	-1.414214
10	-1.414214	-0.000000	-2.828427	-1.414214
11	-1.414214	0.000000	-2.828427	-1.414214