Console

n	x	f(x)
1	1.0000000000	1.5384615385
2	1.5384615385	1.2950191571
3	1.2950191571	1.4018253094
4	1.4018253094	1.3542093904
5	1.3542093904	1.3752980925
6	1.3752980925	1.3659297882
7	1.3659297882	1.3700860034
8	1.3700860034	1.3682410236
9	1.3682410236	1.3690598120
10	1.3690598120	1.3686963976
11	1.3686963976	1.3688576886
12	1.3688576886	1.3687861026
13	1.3687861026	1.3688178744
14	1.3688178744	1.3688037731
15	1.3688037731	1.3688100317
16	1.3688100317	1.3688072540
17	1.3688072540	1.3688084868
18	1.3688084868	1.3688079396
19	1.3688079396	1.3688081825

x = 1.3688079396