

## fixedPoint.c

```
1  #include<stdio.h>
2  #include<math.h>
3
4  #define g(x) 2/(1+x)
5
6  int main() {
7      float x0, x1, e, error;
8      int i = 0;
9
10     printf("f(x) = x^2 + x - 2 = 0\n");
11     printf("x = 2/(1 + x) = g(x)\n");
12     printf("Enter initial guess: ");
13     scanf("%f", &x0);
14     printf("Enter error precision: ");
15     scanf("%f", &error);
16
17     printf("\nSteps \t x0 \t x1=g(x) \t Error\n");
18     do {
19         x1 = g(x0);
20         e = fabs((x1 - x0) / x1);
21         i++;
22         printf("%d \t %.6f \t %.6f \t %.6f\n", i, x0, x1, e);
23         x0 = x1;
24     } while (e > error);
25
26     printf("\nRoot is: %.6f\n", x1);
27     return 0;
28 }
29
```