```c
1  /* report10-a.c - f(x)= cosx - xの計算 */
2  /* 作成者: 192C2008 石原 峻 ; 作成日: 19/07/05 */
3
4  #include <stdio.h>
5  #include <math.h>
6
7  int main(void)
8  {
9      double y, x1, x2, x, z;
10
11     x1 = 0;
12     x2 = 1;
13     z = x2 - x1;
14
15     while(z > 0.001){
16         x = (x1 + x2) / 2;
17         y = cos(x) - x;
18         if(y > 0){
19             x1 = x;
20         }else{
21             x2 = x;
22         }
23         z = x2 -x1;
24     }
25         printf("x = %lf\n", x);
26
27         return 0;
28  }
29
```