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#include <stdio.h>
#include <math.h>
int main(void)
{
double th[101];
double tl,d1,d2,c1,y1,l1,w1,tr;
double tr1,tr2,tr3;
double wel,maxwel,maxtl;
int s,t,n;
for (s=1;s<=100;s++){
th[s] = 0.02*s;
}
maxwel=-999;
for (n=10;n<=40;n++){
tl=0.01*n;
tr1=0.05;
tr2=0.03;
d1=0;
for (s=1;s<=100;s++){
w1=(1-tl)*th[s];
l1=(w1-tr1)/(2*w1);
if (l1<0) l1=0;
y1=th[s]*l1;
c1=w1*l1+tr1;
d1=d1+y1-c1;
}
t=0;
while(t<100){
d2=0;
for (s=1;s<=100;s++){
w1=(1-tl)*th[s];
l1=(w1-tr2)/(2*w1);
if (l1<0) l1=0;
y1=th[s]*l1;
c1=w1*l1+tr2;
d2=d2+y1-c1;
}
tr3=tr2-d2*(tr2-tr1)/(d2-d1);
tr1=tr2;
tr2=tr3;
d1=d2;
if (d2*d2<0.01) t=1000;
t=t+1;
}
tr=tr2;
wel=0;
for (s=1;s<=100;s++){
w1=(1-tl)*th[s];
l1=(w1-tr)/(2*w1);
if (l1<0) l1=0;
c1=w1*l1+tr;
wel=wel+log(c1)+log(1-l1);
}
if (wel>maxwel) maxtl=tl;
if (wel>maxwel) maxwel=wel;
}
printf("%f",maxtl);

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return 0;  
}
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