#include <stdlib.h>

#include <time.h>

#include <math.h>

#include <stdio.h>

#define SIZE 2

#define RATE 0.3

double weights[SIZE];

double th = 0.0;

double AIM=1.0;

double activate(double \*in, double \*weights)

{

double sum=0.0;

double out=0.0;

for (int i=0;i<SIZE;i++)

{

sum+=in[i]\*weights[i];

}

sum+=th;

if (sum >= 0 )

{

out= 1.0;

}

else

{

out= 0.0;

}

return out;}

void train(double \*in, double aim)

{

double out=activate(in, weights);

double error=aim-out;

for (int i = 0; i <SIZE;i++)

{

weights[i]+=RATE\*in[i]\*error;

}

th+=RATE\*error;

}

int main(void)

{

double out;

srand(time(NULL));

for (int i=0;i<SIZE;i++)

{

weights[i]=(double)(rand()%100)/100;

}

for (int j=0;j<1000;j++)

{

double input[SIZE];

input[0] = (double)(rand()%2);

input[1] = (double)(rand()%2);

if(input[0]==input[1]){

AIM=0;

}

else

{

AIM=1;

}

int a=0;

a=j;

int b=0;

b=j;

train(input, AIM);

out=activate(input,weights);

printf("in0[%d]=%f in1[%d]=%f out[%d]=%f ",j,input[0],b,input[1],a,out);

}}