

```

#include<stdio.h>
#include<math.h>
int count=0;
int count1;
int sample,no_input,no_center,i,j;
float x[10][10],t[10][10];
float a[10][10];
float w[10][10];
float wait[20];
float h[20];
float y[20];
float op[20];
float ac;
int k;
int flag=0;
float phie(float x1,float y1,float x2 ,float y2)
{
    float d1=x1-x2;
    float d2=y1-y2;
    float d3=d1*d1+d2*d2;
    return d3;
}
void wchange()
{

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    for(k=0;k<30;k++)
    {
        for(i=0;i<sample;i++)
        {
            h[i]=0;
            for(j=0;j<no_center;j++)
            {
                h[i]+=wait[j]*a[i][j];
                if(h[i]>0)
                {
                    y[i]=1;
                }
                else
                {
                    y[i]=0;
                }
            }
        }
        if(op[i]!=y[i])

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    {
        printf("h:(%f)\n",h[i]);
        printf("y:(%f)\n",y[i]);
        for(j=0;j<no_center;j++)
        {
            wait[j]=wait[j]-ac*(y[i]-op[i])*a[i][j];
            printf("\n%f ",wait[j]);
        }
        printf("\n");
        count=0;
    }
    if(op[i]==y[i])
    {
        count=count+1;
        printf("count:\n");
    }
    if(count==no_center)
    {
        flag=1;
    }
}
if(flag==1)
{
    printf("\n count:%d\n",count);
    printf("final weight:\n");
    for(i=0;i<no_center;i++)
    {
        printf("y[%d]:%f\n",i,wait[i]);
    }
    printf("final output:\n");
    for(i=0;i<sample;i++)
    {
        printf("y[%d]:%f\n",i,y[i]);
    }
    break;
}
printf("\n \n \n");

}
}
int main()
{

```

```

printf("enter the number of input sample:\n");
scanf("%d",&sample);
printf("enter the number of input:\n");
scanf("%d",&no_input);
printf("enter the number total number of radial basis function in the hidden layer:\n");
scanf("%d",&no_center);
printf("enter the sample of input:\n");
for(i=0;i<sample;i++)
{
    for(j=0;j<no_input;j++)
    {
        scanf("%f",&x[i][j]);
    }
}
printf("enter the center of the for radial basis function:\n");
for(i=0;i<no_center;i++)
{
    for(j=0;j<no_input;j++)
    {
        scanf("%f",&t[i][j]);
    }
}
printf("enter the initial weight of the output layer:\n");
for(i=0;i<no_center;i++)
{
    scanf("%f",&wait[i]);
}
printf("enter the actual output:\n");
for(i=0;i<sample;i++)
{
    scanf("%f",&op[i]);
}
printf("enter the acceleration rate:\n");
scanf("%f",&ac);
for(i=0;i<sample;i++)
{
    for(j=0;j<no_center;j++)
    {
        w[i][j]=-(0.5)*phie(x[i][0],x[i][1],t[j][0],t[j][1]);
        printf("%f %f %f\n",t[j][0],t[j][1],w[i][j]);
        a[i][j]= pow(2.67,w[i][j]);
    }
    printf("\n");
}

```

```
}  
for(i=0;i<sample;i++)  
{  
    for(j=0;j<no_center;j++)  
    {  
        printf("(%f)\t",a[i][j]);  
    }  
    printf("\n");  
}  
wchange();  
  
return 0;  
}
```