```
#include<stdio.h>
int main()
{
int m,n;
float x[20][20];
int y[20];
float h[20];
float w[20];
int t[20];
int i,j,k,count;
float ac;
printf("enter the number of inputs including bias:");
scanf("%d",&m);
printf("enter the number of the sample including bias:");
scanf("%d",&n);
printf("enter the acceleration rate value:");
scanf("%f",&ac);
printf("enter the initial weights including bias:\n");
        for(i=0;i<m;i++)
        {
        scanf("%f",&w[i]);
        }
printf("enter the initial output of samples :\n");
        for(i=0;i<n;i++)
        {
        scanf("%d",&t[i]);
        }
printf("enter the sample inputs: ");
 for(i=0;i<n;i++)
 {
        for(j=0;j<m;j++)
        {
        scanf("%f",&x[i][j]);
        }
        printf("\n");
 }

for(k=0;k<30;k++)
{
        count=0;
        printf("iteration no:%d \n ",k);
        for(i=0;i<n;i++)
        {       printf("inside_i %d \n",i);
```

```
                h[i]=0;
                y[i]=0;
                for(j=0;j<m;j++)
                {
                h[i]+=w[j]*x[i][j];

                        if(h[i]>0)
                        {
                        y[i]=1;
                        }
                        else{
                        y[i]=0;
                        }

                }
                printf("y:%d \n",y[i]);
                if(t[i]!=y[i])
                        {
                        printf("h:(%f)",h[i]);
                        for(j=0;j<m;j++)
                        {
                        w[j]=w[j]-ac*(y[i]-t[i])*x[i][j];
                        printf("\n %f \t  ",w[j]);
                        }
                        printf("\n");
                        }
                if(t[i]==y[i])
                {
                count++;
                }

        }
if(count==(m-1))
{
        if(t[i]!=y[i])
                        {
                        printf("final  weight of the output is:");
                        for(j=0;j<m;j++)
                        {
                        printf("\n %f \t  ",w[j]);
                        }
                        printf("\n");
                        }
```

```
            break;
}
printf("\n \n \n");
}
return 0;
}
```