clear

epochs=0;

Inputs=[1 0 0 0;

0 1 0 0;

0 0 1 0;

0 0 0 1];

Targets = [1 0;

1 0;

0 1;

0 1];

W = rand(4,2)\*2-1;

W = W./sum(W);

mse=9999; %mean squared error

Lrate = .1;

while mse>.05

epochs = epochs+1;

for n=1:4

In = Inputs(n,:);

Targ = Targets(n,:);

Out=In\*W;

Err= Targ-Out;

errs(n) = mean(Err.^2);

delta = (In'.\*Err)\*Lrate;

A screenshot of a social media post

Description automatically generated W = W + delta;

end

mse = mean(errs);

allmses(epochs)= mse;

end

plot(allmses)

xlabel('epochs')

ylabel('mse')