f(w1,w2) = 0.1w12 + 2w22  (1)

Đạo hàm của f(w1,w2) theo w1 là: 0.2w1

Đạo hàm của f(w1,w2) theo w2 là : 4w2

Bài 1: a)

khởi tạo tham số : w1 = -5, w2 = -2, α = 0.4

Epoch = 1:

dw1= 0.2\*(-5) = -1

dw2 = 4\*(-2) = -8

w1 = -5 - 0.4\*(-1) = -4.6

w2  = -2 – 0.4\*(-8) = 1.2

Epoch = 2:

dw1= 0.2\*(-4.6) = -0.92

dw2 = 4\*(1.2) = 4.8

w1 = -4.6 - 0.4\*(-0.92) = -4.232

w2  = 1.2 - 0.4\*(4.8) = -0.72

Bài 2: a)

khởi tạo tham số : w1 = -5, w2 = -2, v1 = 0, v2 = 0, α = 0.6, β = 0.5

epoch = 1:

dw1= 0.2\*(-5) = -1

dw2 = 4\*(-2) = -8

v1 = 0.5\*0 + (1-0.5)\*(-1) = -0.5

v2 = 0.5\*0 + (1-0.5)\*(-8) = -4

w1 = -5 - 0.6\*(-0.5) = -4.7

w2 = -2 – 0.6\*(-4) = 0.4

epoch = 2:

dw1= 0.2\*(-4.7) = -0.94

dw2 = 4\*(0.4) = 1.6

v1 = 0.5\*(-0.5) + (1-0.5)\*(-0.94) = -0.72

v2 = 0.5\*(-4) + (1-0.5)\*(1.6) = -1.2

w1 = -4.7 - 0.6\*(-0.72) = -4.268

w2 = 0.4 - 0.6\*(-1.2) = 1.12

Bài 3: a)

khởi tạo tham số : w1 = -5, w2 = -2, S1 = 0, S2 = 0, α = 0.3, r= 0.9, € = 10-6

epoch = 1:

dw1= 0.2\*(-5) = -1

dw2 = 4\*(-2) = -8

S1 = 0.9\*0 + (1-0.9)\*(-1)2 = 0.1

S2 = 0.9\*0 + (1-0.9)\*(-8)2 = 6.4

w1 = -5 - 0.3\*(-1/)

w1 = -2 - 0.3\*(-8/)

epoch = 2:

dw1= 0.2\*(-4.05) = -0.81

dw2 = 4\*(-1.05) = -4.2

S1 = 0.9\*0.1 + (1-0.9)\*(-0.81)2

S2 = 0.9\*6.4 + (1-0.9)\*(-4.2)2

w1=-4.05-0.3\*(-0.81/)

w1=-1.05-0.3\*(-4.2/)

Bài 4: a)

khởi tạo tham số : w1 = -5, w2 = -2, v1 = 0, v2 = 0, S1 = 0, S2 = 0, α = 0.2, β1= 0.9, β2= 0.999,

€ = 10-6

epoch = 1:

dw1= 0.2\*(-5) = -1

dw2 = 4\*(-2) = -8

S1 = 0.999\*0 + (1-0.999)\*(-1)2 =0.001

S2 = 0.999\*0 + (1-0.999)\*(-8)2 = 0.064

Scorr\_1=0.001/(1-0.999) = 1

Scorr\_2=0.064/(1-0.999)=64

v1 = 0.9\*0 + (1-0.9)\*(-1) = -0.1

v2 = 0.9\*0 + (1-0.9)\*(-8) = -0.8

Vcorr\_1=-0.1/(1-0.9)=-1

Vcorr\_2=-0.8/(1-0.9)=-8

W1=-5-0.2\*(-1/ +10-6)

W2=-2-0.2\*(-8/ +10-6)

epoch = 2:

dw1= 0.2\*(-4.8) = -0.96

dw2 = 4\*(-1.8) = -7.2

S1=0.999\*0.001+(1-0.999)\*(-0.96)2=0.002

S2=0.999\*0.064+(1-0.999)\*(-7.2)2=0.1158

Scorr\_1=0.002/(1-0.9992)=1.001

Scorr\_2=0.1158/(1-0.9992)=57.929

v1 = 0.9\*(-0.1) + (1-0.9)\*(-0.96)=-0.186

v2 = 0.9\*(-0.8) + (1-0.9)\*(-7.2)=-1.44

Vcorr\_1=-0.186/(1-0.92)=-0.9789

Vcorr\_2=-1.44/(1-0.92)=-7.5789

W1=-4.8-0.2\*(-0.9789/ +10-6)

W2=-1.8-0.2\*(-7.5789/ +10-6)