## Assignment-9

Let us consider a sample - Dataset have I input (ni) and one Output (yi) and numbers of lamples 4. Develop a simple litear regression model using momentum optimiser

Simple (9)	· nia	you
4	02	3.4
2	0.4	3.8
3	0.6	4-2
4	0.8	4.6
		-

DO Manual Calculations for 2 iterations with 1st 2 sumposter) : [714] . M21, c2-1, n > 0.1, epoches = 2, 8 = 09, Vm > 1/20, n < 22

Step 4 ° gm = 
$$dE = -(yi - mni - c)ni$$
  
=  $-(3.4 - (1)(0.2) + 1)(0.2)$   
=  $-0.84$ 

$$g_{C} = \frac{\partial E}{\partial c} = -(y_{1}^{n} - m_{2}^{n} - c)$$

$$= -(3-4-0-2+1)$$

$$= 4-2$$

Step 5: 
$$Vm = Vvm - ngm$$

$$= (0.9)0 - (-0.1)(-0.84)$$

$$= (-0.084)$$

$$= 20.084$$

```
m=m + Vm = 1+(0.84) = -0.916
          ezct ve = -1-0.42 = -1-92
  Step7 8 - sample += 1 => 1+1=2
           1) (sample >ns) : goto step9
  step 8 %
            else : go to step 9
 Skp 4 %
           gm = dE = (3.8 - (0.916)(0.4) + (.42)(0.4)
                2m =-1.94)
           9c = de = -4.853
       = Vm = 8Vm - 1gm
 Step 5
           = (0.9) (-0.084) T(-0.1x -1.941]
            = 0 - 2697
        Ves= VVC-ngo-) LESDAD CE adv bir aca
          = (0.9)(-0.42)-[-0.1x-4.853]
             =+ 0.863 (+ styring + x pring)
Step 6
          m=m+Vm =0.916+(-2697)=0.6463
           cz(+NC=71-42-0-863 =-2-283
Step 7
       à sample += 1
           = 2+1=3
          " ( Coampre >ns) " go to step 9
Stepe :
            else goto step 4
                       Circulation of Contraction
 Hepq &
          148=748+1
                14122
 Step 10 8
         'y (Ther > epoches) goto stop q
```

else & go to slep 3

```
Step 3 = sample=1
 step4 = gm = 8+ z-(3-4-(0.646) (0.2)+(2-283) (0-2)
                 - = -1.110 111 de 1 = + 11 mil
         gc=de = = (3.4-(0.646)(0.2)+2.283)
 Step 3 % Vm= 8vm - ngm
            = (0.9)(-2697) -[-0.1x-1.10]
            = -0:353
             Vc = 8vc = ngc
              = Co.97 (-863) - (-01x-5-53)
              -1-332
 Step 6
           m=m+Vm => 0.6463+(-0.353) =0.203
            CZENC => -2.283-1.832=-3.615
 Ctop 7
           Sample = Sample +)
             2=1+1=2 (1000) Kalpana V (10000)
           of (Sample>ns): goto step 9
Sep 8
                                 1 staling ; the
           else goto step4
           gm= - (3-8-(0-293)(0-4)+3-615)(00) =) -2919
Step 4 %
           Jc = - (8.8 - (0-293) (0-4) +8.615) =) -7.297
          · Vm = (0.9) (-0.353) -[+0.1x-2.919] =>0.6696
Skp 5 6
           Vc=(0.9)(-1.332)-[-01x-7.29]=-1.9285
           m+=Vm=) 0293 -0.609 = 0.316
Step 6: 0
            ct= Vc = -3.615 -1-928 =-5543
```

step 7 = sample = sample + 1

2+1=3

step 6 = 2 of (sample 7 ns)? goto step 9

else : goto step 4

Step 9: 1 tex + 21

= 2+1=3

step 10 = 16 (1 tex Depoches) & goto step 11

else : goto step 3

stepu ? priat mie

M 2 -0.316 ; C 2-5543

VOS NECONS

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1 - whoo

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the internal property and the

J-C+3(J×10)11)-43)-4