**Step1 :** Take the input values and declare h(t-1) and current input Xt.

Declare σ () = sigmoid & tanh()=hyperbolic tangent are activation Functions.

**Step 2 :** Intialize the net parameters LSTM net, calculate the forgetgate

as following.

Ft= σ [(Wf \*Xt) + (Wf\*h(t-1))+ bf]

Now calculate the output of forgetgate as follows:

Ctf= c(t-1)\*ft

**Step 3:** calculate the inputgate ,it has two parts as shown below

it= σ [(Wi \*Xt)+(Wi\*h(t-1))+ bi]

gt=tanh[(Wg\*Xt)+(Wg\*h(t-1))+ bg]

Now calculate the output of inputgate as follows:

Cti= it\*gt

Ct=Cti+Ctf.

**Step 4 :** Calculate the outputgate ,as below

ot= σ [(Wo \*Xt)+(Wo\*h(t-1))+ bo]

**Step 5 :** now calculate :ht = tanh(Ct)+ot.

// GRU algorithm

**Step 6 :** take the past information as input , Calculate the Updategate Zt

As Follows:

Zt= σ [WzXt + Wz h(t-1)]

**Step 7 :** Calculate the resetgate denoted by Rt as follows:

Rt= σ [WrXt + Wr h(t-1)]

**Step 8 :** Calculate the memory content which will use the resetgate to

Store the Relevant information from the past:

ht =tanh[WXt+Rt (xnor) Wh(t-1)]

**Step 9:** Now finally calculate htt—Vector which holds the information,

Update-gate is Required.

ht=Zt (xnor) h(t-1) +(1- Zt) (xnor) h’t .

**Step 10:** END