Two\_level\_dynamic\_branch\_predictor(addressvariable, stage(checking if exec or IF\_ID),prediction\_type, actual\_taken\_or\_not\_taken,)

{

IF(prediction\_type=2 and stage=IF\_ID) then

{ return prediction\_state}

Elseif(prediction\_type=2 and stage=EXEC) then

{ if (actual\_taken\_or\_not\_taken= prediction\_state) then

{

If(pred\_count=0 and prediction\_state=0)then

{ pred\_count=0 ;prediction\_state=0}

Elseif(pred\_count=1 and prediction\_state=0)then

{ pred\_count=pred\_count-1; prediction\_state=0}

Elseif(pred\_count=2 and prediction\_state=1)then

{ pred\_count=2; prediction\_state=1}

Elseif(pred\_count=1 and prediction\_state=1)then

{ pred\_count= pred\_count+1; prediction\_state=1}

}

elseif (actual\_taken\_or\_not\_taken != prediction\_state) then

{

If(pred\_count=0 and prediction\_state=0)then

{ pred\_count=pre\_count+1 ;prediction\_state=0}

Elseif(pred\_count=1 and prediction\_state=0)then

{ pred\_count=pred\_count+1; prediction\_state=1}

Elseif(pred\_count=2 and prediction\_state=0)then

{ pred\_count=pred\_count-1; prediction\_state=1}

Elseif(pred\_count=1 and prediction\_state=1)then

{ pred\_count= pred\_count-1; prediction\_state=0}

}

}

}