Answer To The Question No: 1

Here, different color of cloths black, white, gray pink, S, W.

2 type inputs:

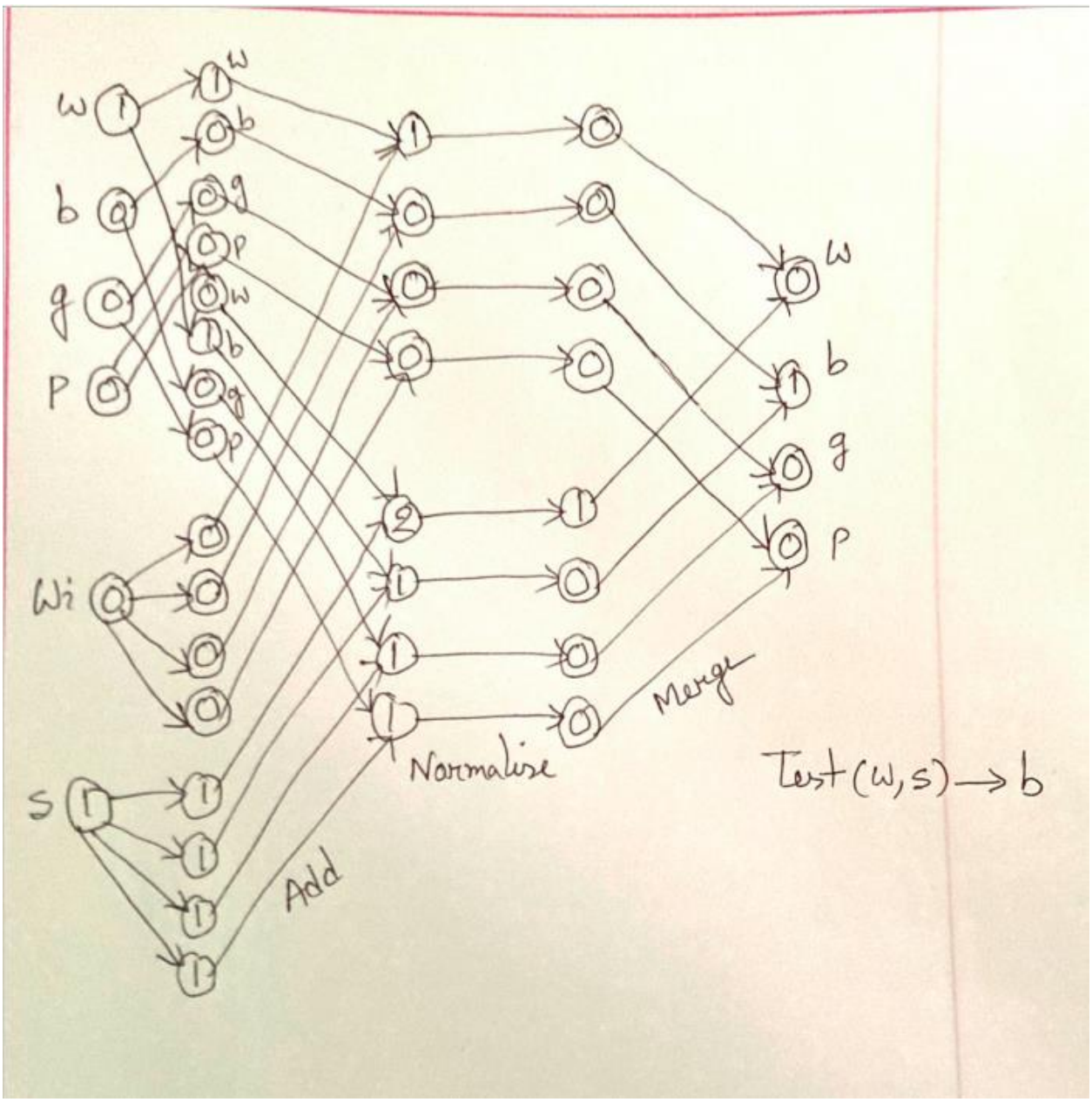
color → {black, white, gray, pink}

weather → {sunny, windy}

Output: color → {black, white, gray, pink}

Sequence: W → b → g → P

windy: same color; sunny: different.


w
b
g
P
Wi
S
Add
Normalise
Merge
w
b
g
P
Test (w, s) → b

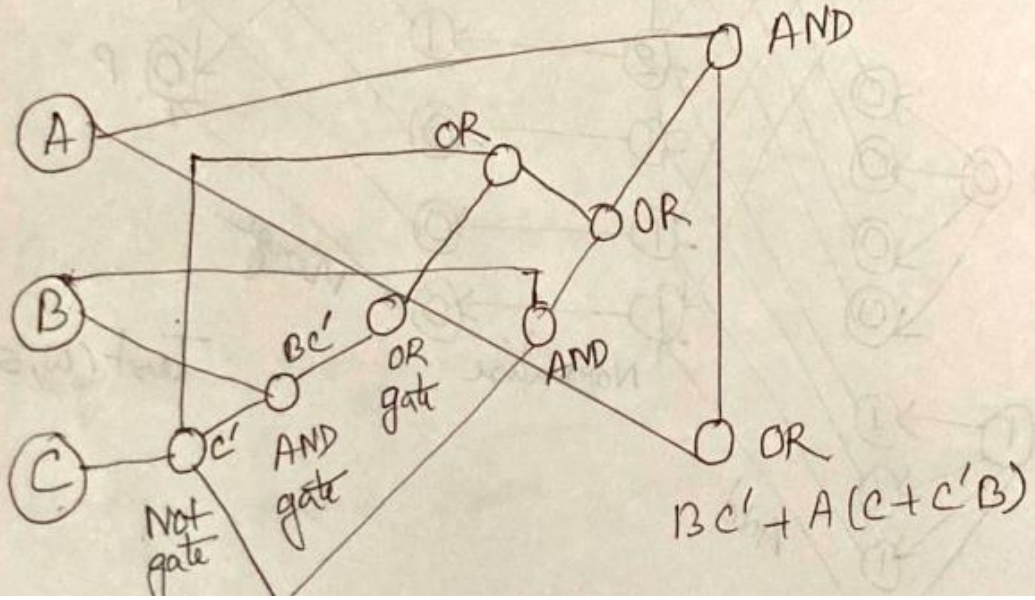
Answer To The Question No: 2

Here,

the boolean function is

~~$BC' + A(C + C'B^8)$~~

$BC' + A(C + C'B)$ [Inputs are A, B and C]



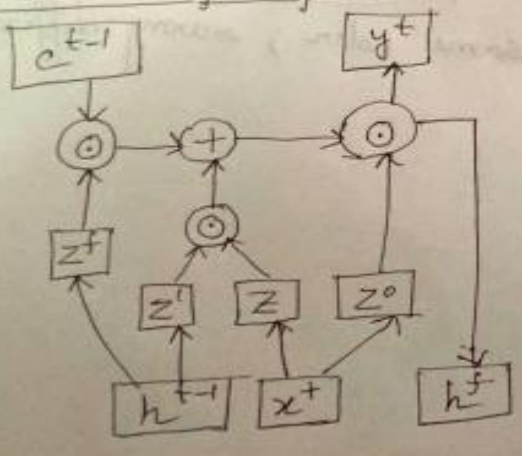
Answer to the Question No: 3

The core difference of RNN, peephole-LSTM and GRU is that standard RNN suffer from vanishing and exploding gradient problem. LSTMs handles these problems by introducing new gates. For example, input and forget gates which allows for the good control over the gradient flow and enable better preservation of long range dependencies. Long range dependecy in RNN can be resolved by using increasing number of ~~dependency~~ in replacing ~~number~~ layer in LSTM. RNNs dont have a cell state, But they only have hidden states and these hidden states works as the memory for RNNS. GRU is easy to modify and it doesn't require memory units. So, training speed is faster than LSTM. Moreover GRU has two doors where LSTM has three [illegible] LSTM has two activation function

while GRU has only one activation function

The basic difference between LSTM forget gate and GRU's reset gate is that forget gate decide how much information from the previous state should kept and forget remaining whereas, output gate controls which parts of the cell are output to the hidden state which also determine what the next hidden state will be.

The Metrix workflow of LSTM:



Here,

$c^t = z^f \odot c^{t-1} + z^i \odot z$

$h^t = z^o \odot \tanh(c^t)$

$y^t = \sigma(wh')$