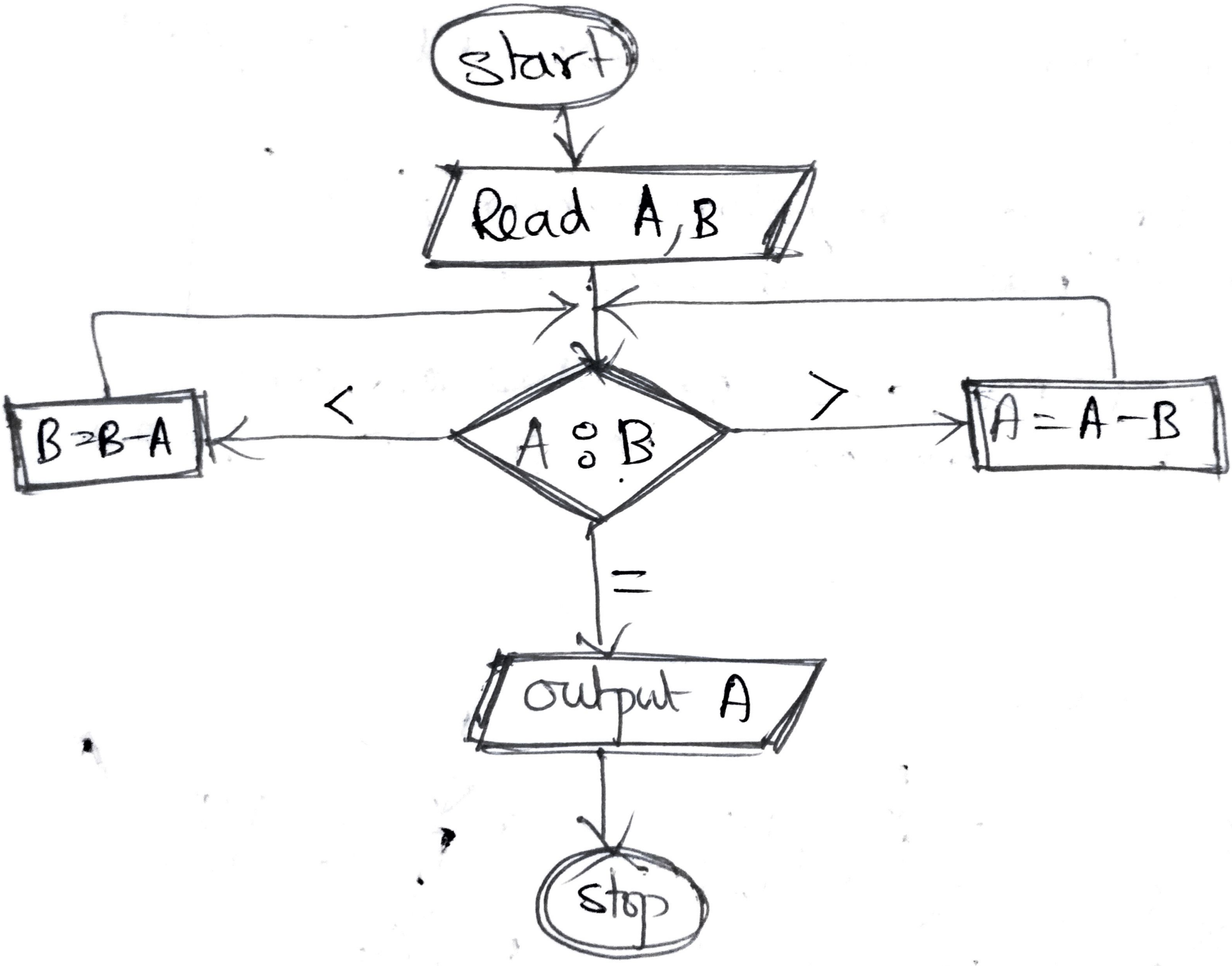
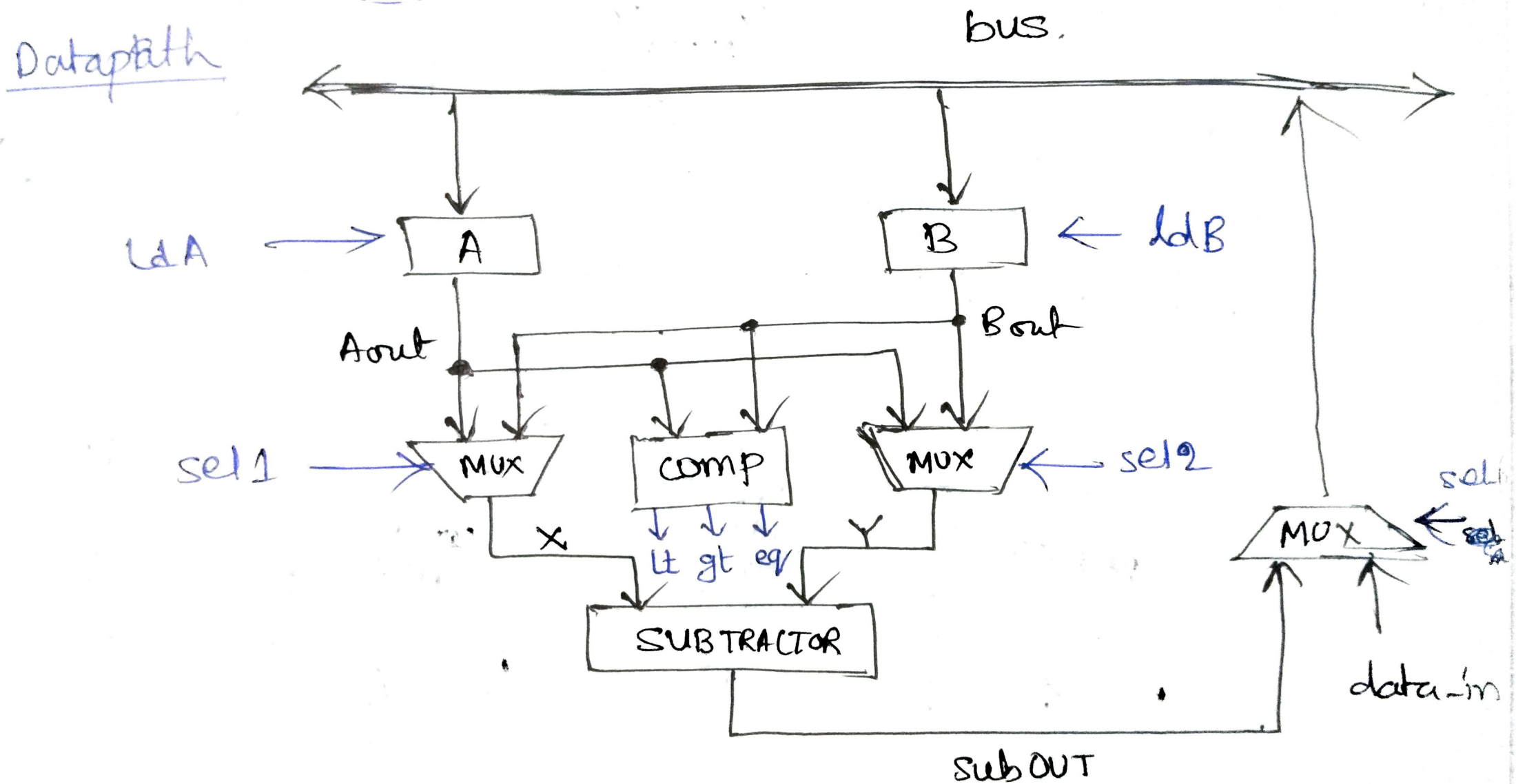
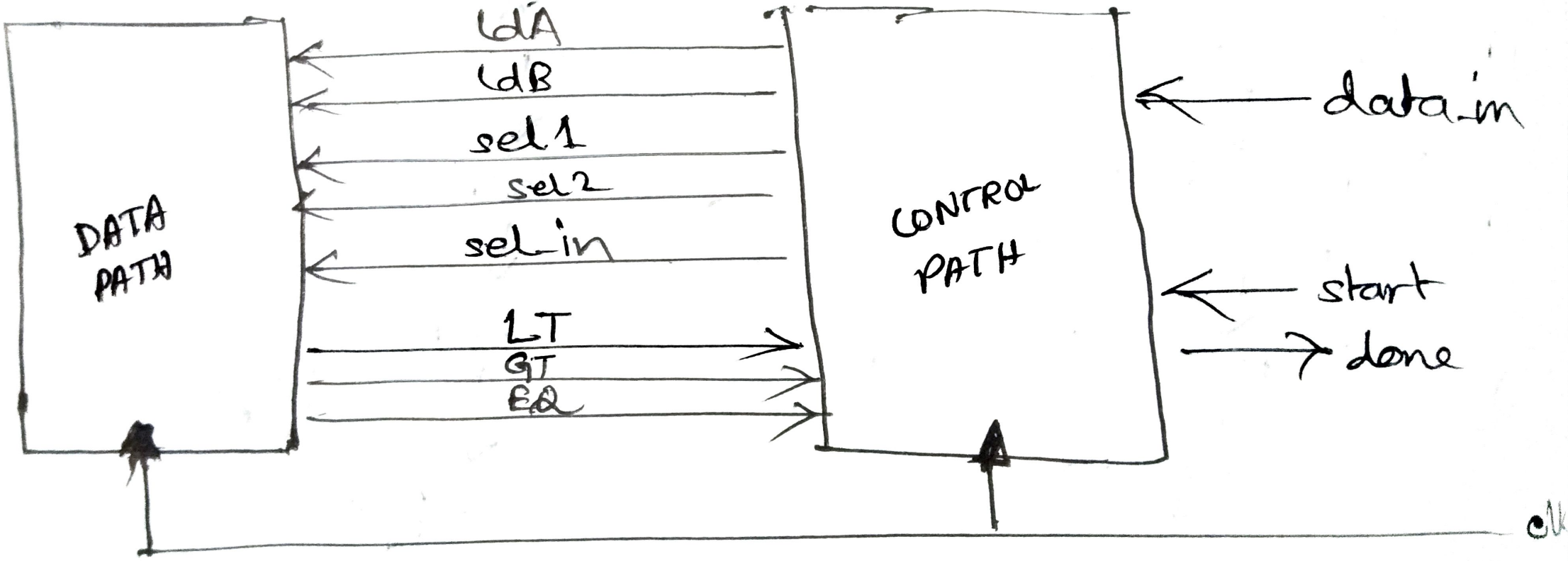
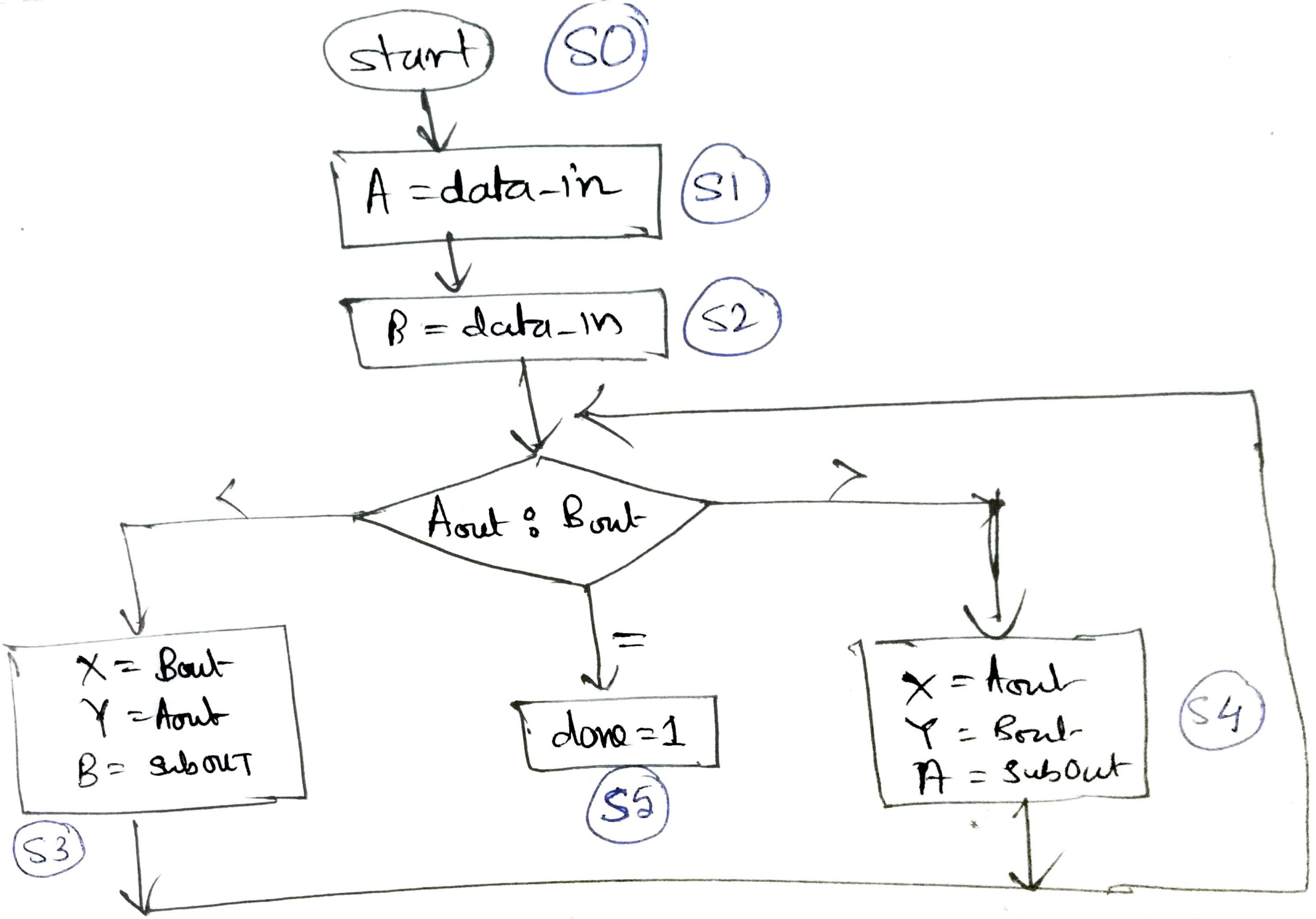
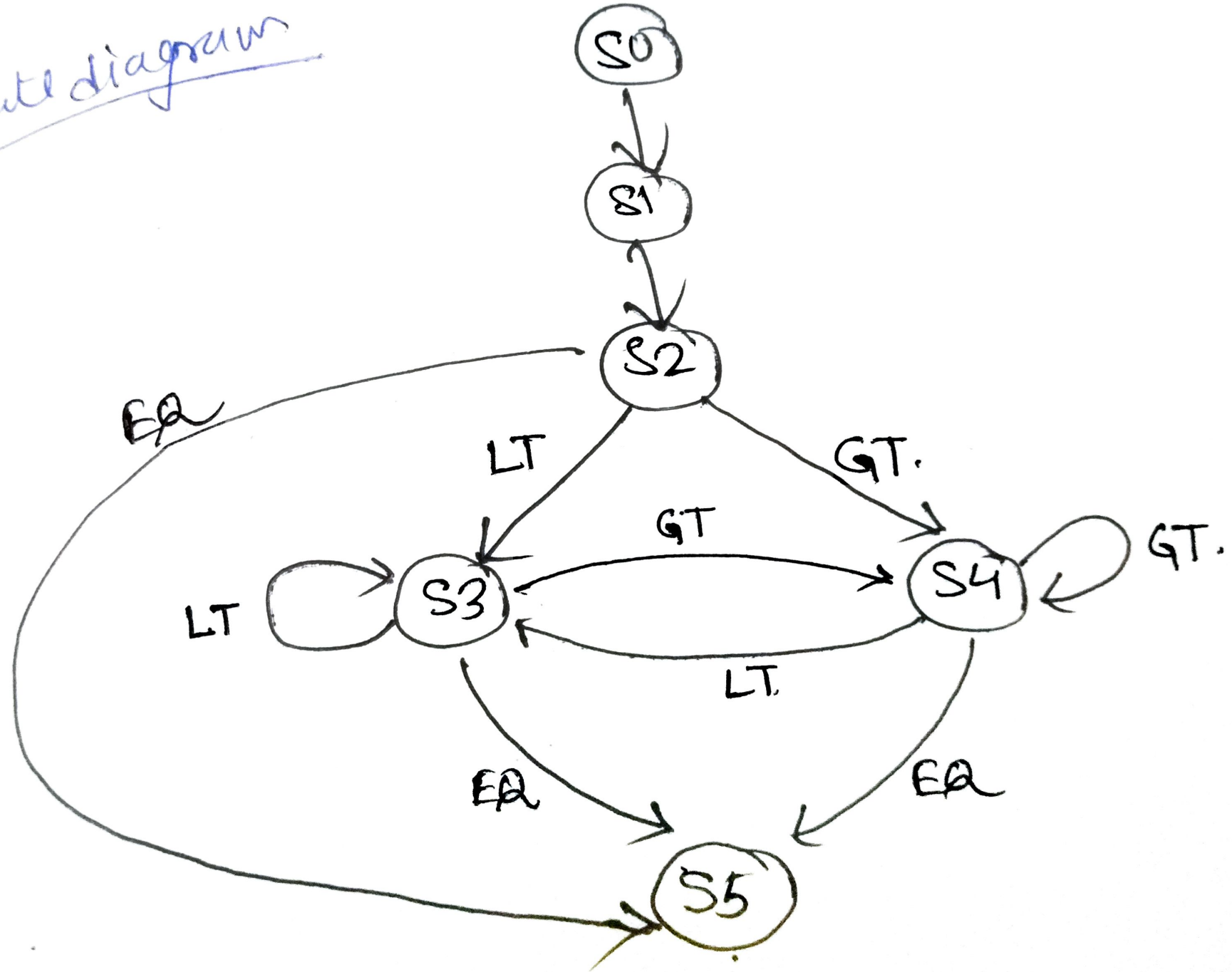

start
Read A, B
A ? B
<
>
=
B = B - A
A = A - B
output A
stop

Datapath


bus.
LdA
A
B
LdB
Aout
Bout
sel1
MUX
COMP
MUX
sel2
X
Y
lt gt eq
SUBTRACTOR
MUX
data_in
SubOUT


DATA PATH
LdA
LdB
sel1
sel2
sel_in
LT
GT
EQ
CONTROL PATH
data_in
start
done
clk


start
S0
A = data_in
S1
B = data_in
S2
Aout ? Bout
<
=
>
X = Bout
Y = Aout
B = subOUT
S3
done = 1
S5
X = Aout
Y = Bout
A = subOut
S4

state diagram