1. add r_c, r_a, r_b

$pc \rightarrow Mem\ A, alu.A$	S0
$+2 \rightarrow alu.B$	IR
$alu.C \rightarrow PC, T3$	$C\ \bar{Z}$
$Mem.D \rightarrow IR$	add
	S1

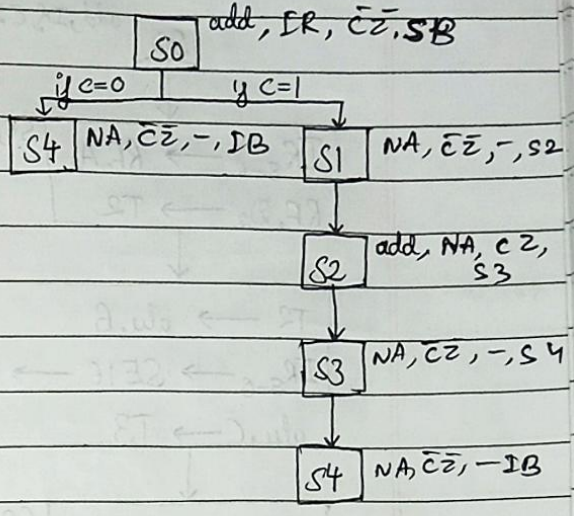
$IR_{8-6} \rightarrow RF.A_2$	S1
$IR_{5-3} \rightarrow RF.A_1$	NA
$RF.D_1 \rightarrow T1$	$C\ \bar{Z}$
$RF.D_0 \rightarrow T2$	-
	S2

$T1 \rightarrow alu.A$	S2
$T2 \rightarrow alu.B$	NA
$alu.C \rightarrow T3$	$C\ \bar{Z}$
	add
	S3

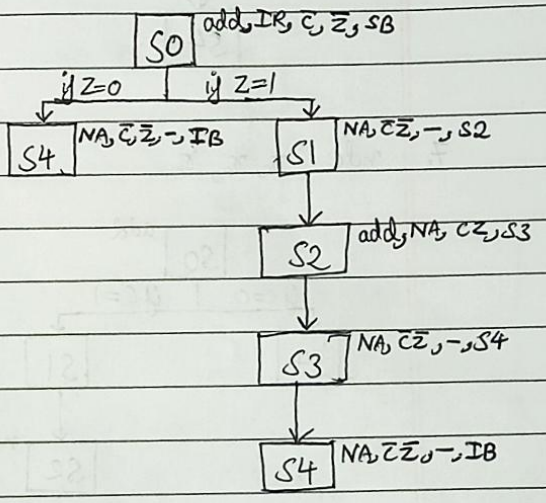
$T3 \rightarrow RF.D_3$	S3	
$IR_{11-9} \rightarrow RF.A_3$	NA	
	$C\ \bar{Z}$	- S4

"111" $\rightarrow RF.A_3$	S4	
$PC \rightarrow RF.D_3$	NA	
	$C\ \bar{Z}$	- IB

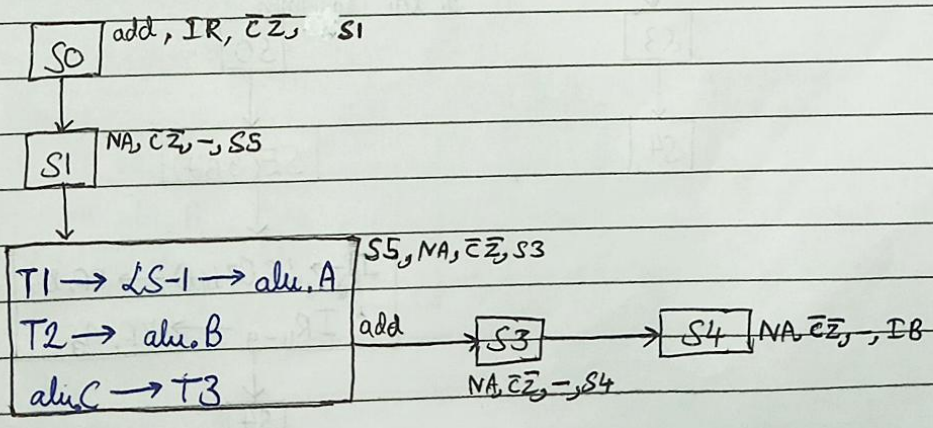
2. adc r_c, r_a, r_b



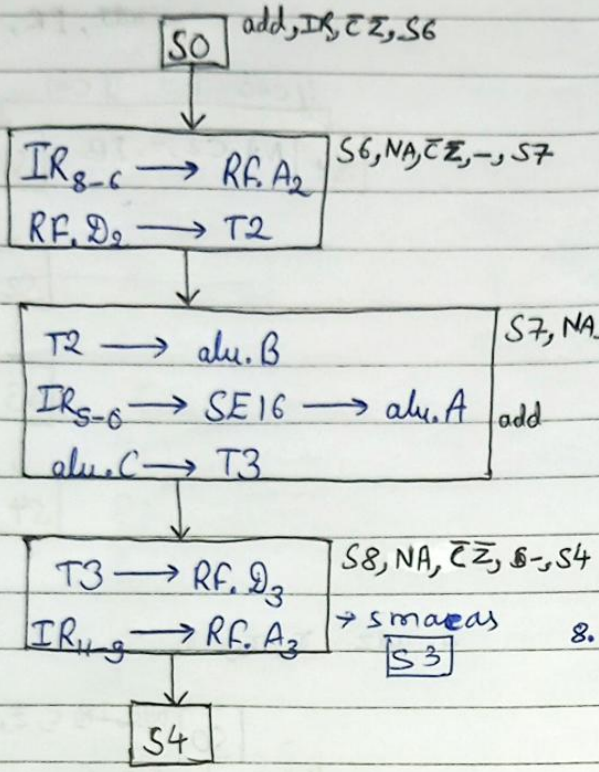
3. adz r_c, r_a, r_b



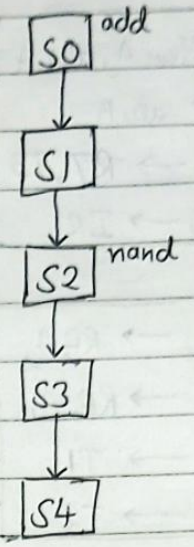
4. adl r_c, r_a, r_b



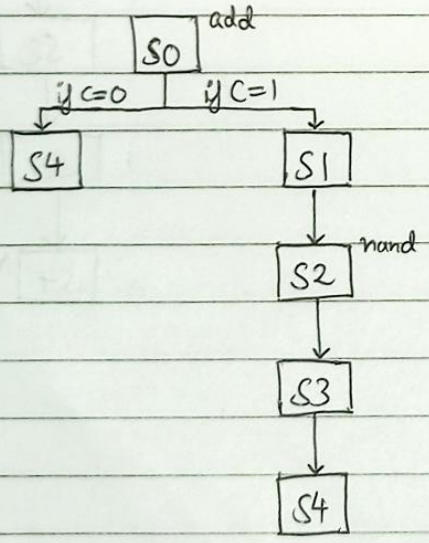
5. adi r_b, r_a, imm6



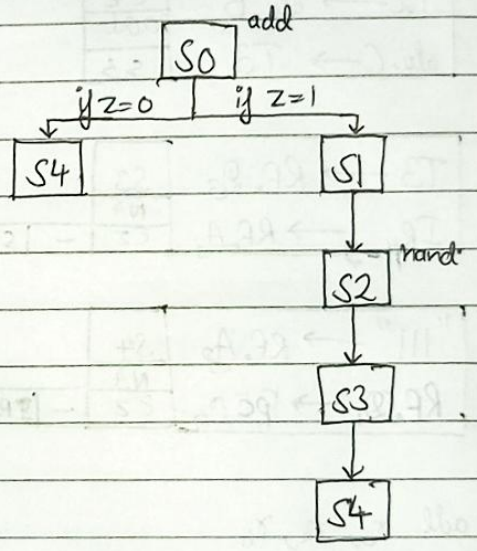
6. ndu r_c, r_a, r_b



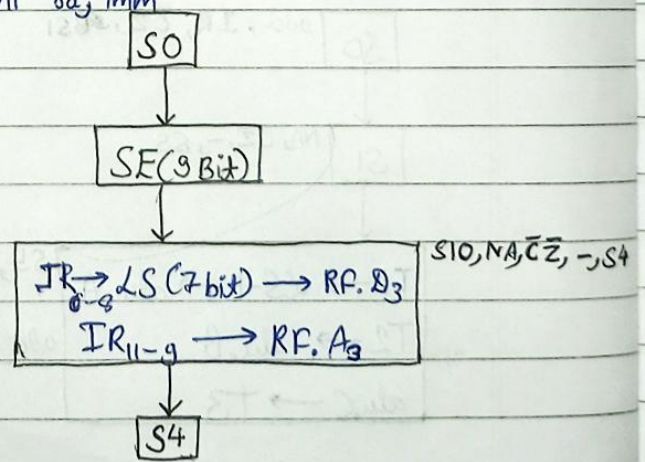
7. ndc r_c, r_a, r_b



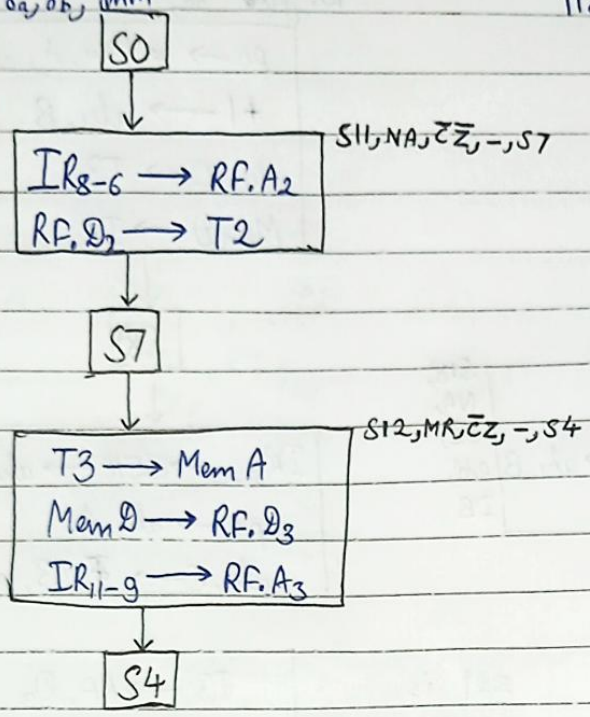
8. ndz r_c, r_a, r_b



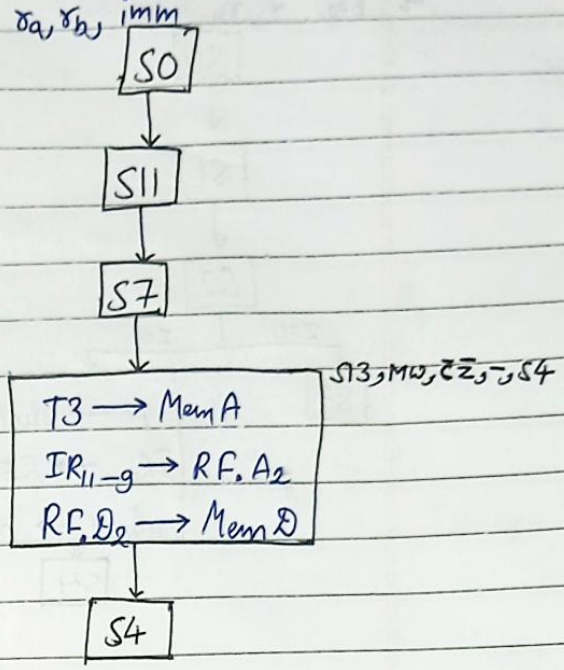
9. lhi r_a, imm



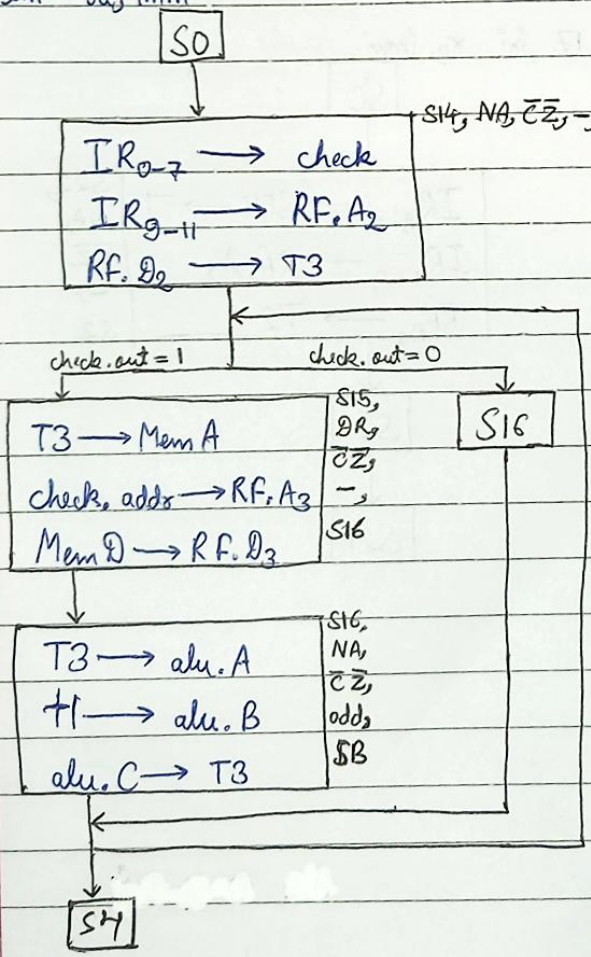
10. lw r_a, r_b, imm



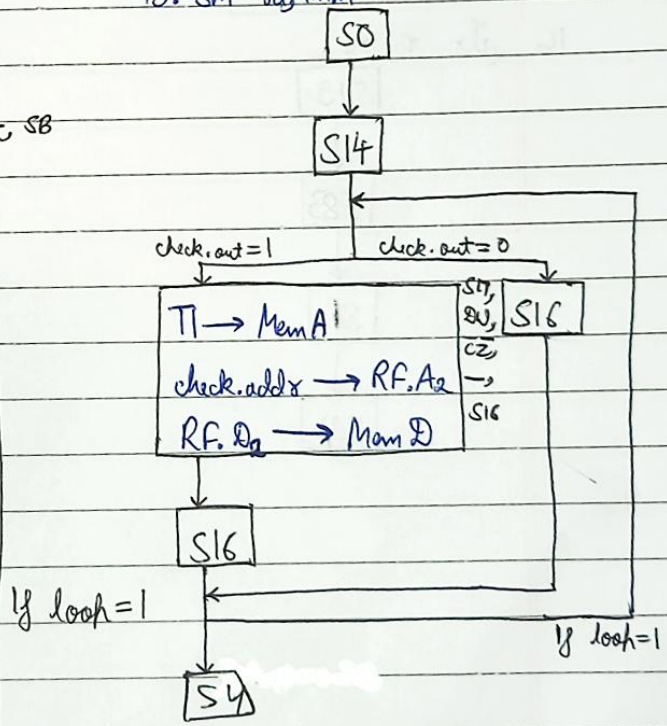
11. sw r_a, r_b, imm



12. lm r_a, imm

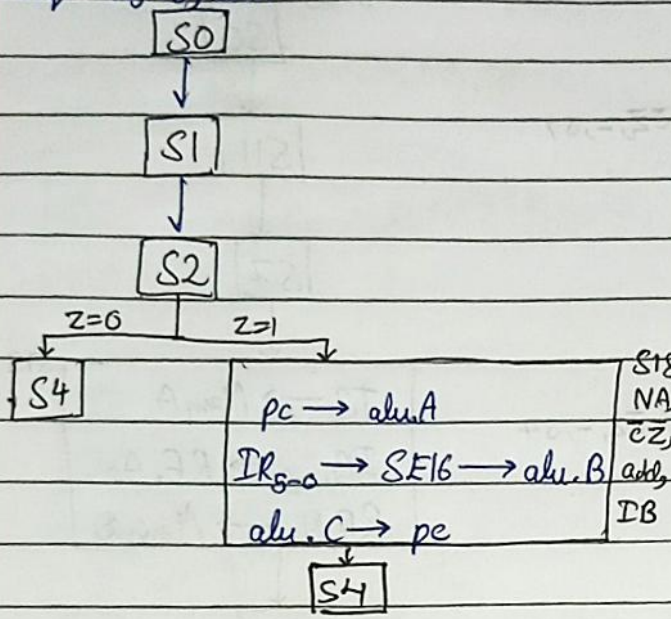


13. sm r_a, imm

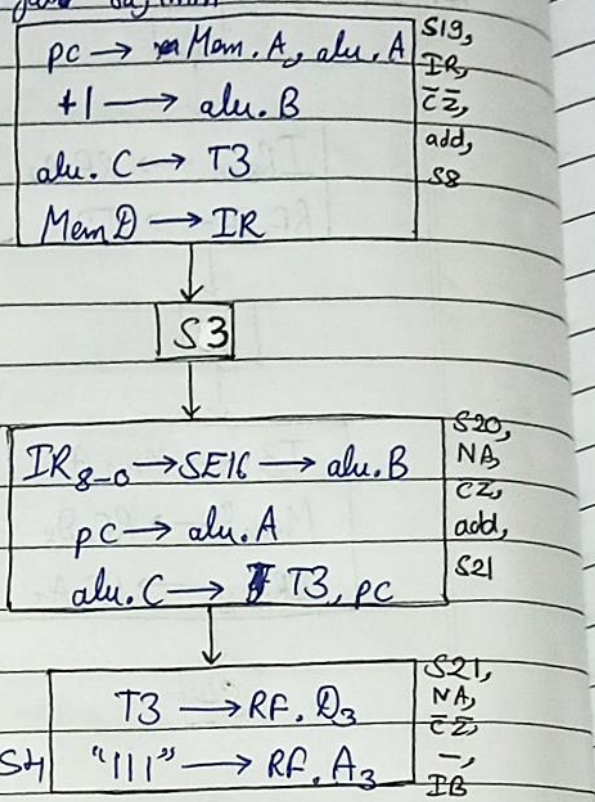


S19 merged with S0

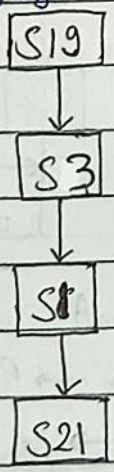
14. beq r_a, r_b, imm



15. jalr r_a, imm



16. jlr r_a, r_b



17. jri r_a, imm