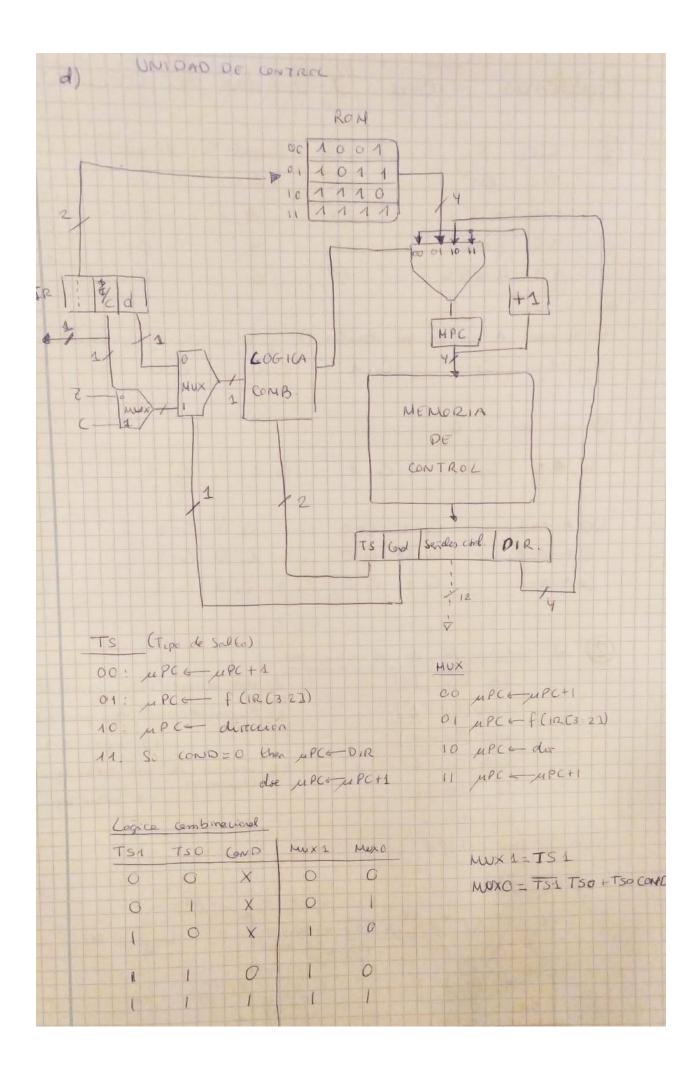
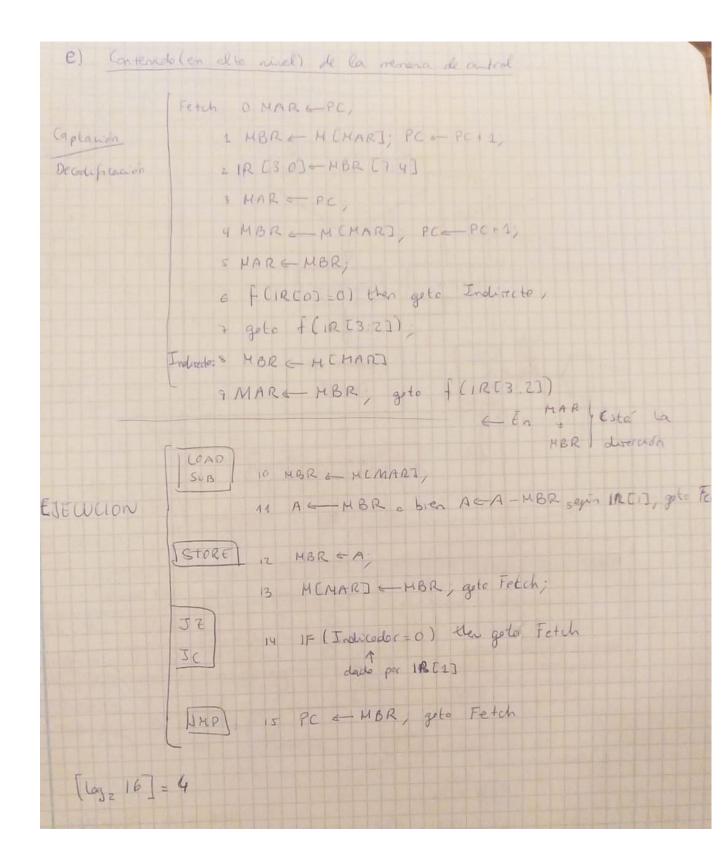
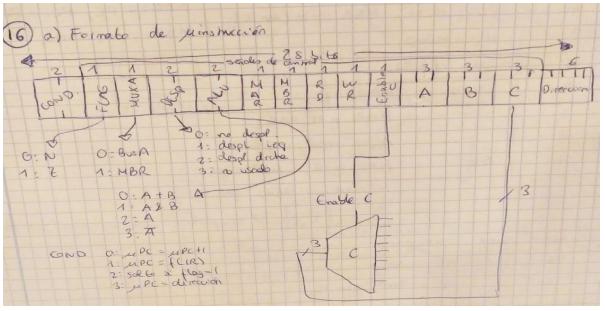
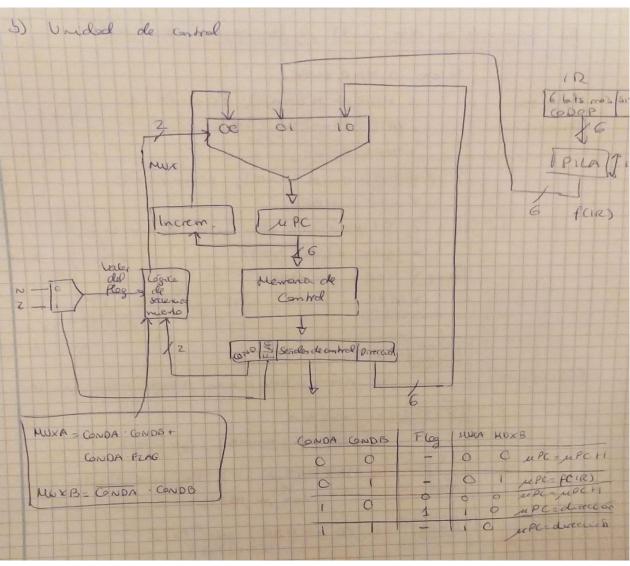
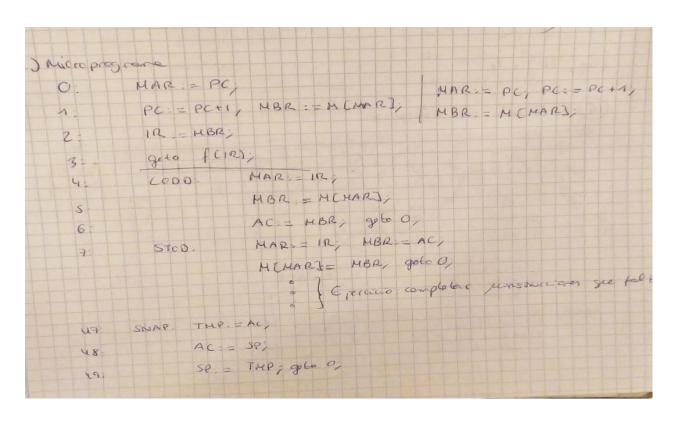
Problemas Tema 3: Unidad de Control (1) CoCo F Co Co Enreda & Enreda S O O RIS O O A A B Co Arción 10 RANDS 10 B A O BEF 11 RXORS 11 B B A A A O BEF O A A CO A A B Co Arción B A O BEF O A A B Co Arción B A O BEF O A A B Co Arción O B A A B Co Arción O B A CO CO A B A O BEF O A A B CO A A CO A B A O BEF O A A CO A B A O BEF O A A CO A B A O BEF O A A CO A A B A O BEF O A A CO A A B A O BEF O A A CO A A B A O BEF O A A CO A A B A O BEF O A A A CO A A B A O BEF O A A A CO A A B A O BEF O A A A CO A A B A O BEF O A A A CO A A B A O BEF O A A CO A A B A O BEF O A A A CO A A B A O BEF O A A A B A A A CO A A B A O BEF O A A A B A A A A CO A A B A O BEF O A A A B A A B A A A CO A A B A O BEF O A A A B A A A A A CO A A B A A A CO A A B A O BEF O A A CO A B A A B A A A CO A A A B A O BEF O A A CO A A A A A A A A A A A A A CO A A B A A CO A A B A A CO A A B A CO A A CO A A B A A B A CO A A CO A A B A CO A A B A A B A A CO A A CO A A B A A A CO A A CO A A B A A A CO A A B A A A CO A A CO A A B A A A CO A A CO A A CO A A B A A A CO A A A A					
(1) CaCa F CaCa Entrada a Entrada S O A RIS O A A B CA Arción A CA RANDS A CA RANDS A CA ARCIÓN A CA A CA A B CA ARCIÓN A CA A CA A B CA ARCIÓN A CA A CA A B CA ARCIÓN A CA ARCIÓN A CA A CA A B CA ARCIÓN A CA A B CA ARCIÓN A CA A B CA ARCIÓN A CA ARCIÓN	Problemas Ten	n 3.			
00 R+3 01 R-S 01 A 01 R-S 01 A 01 R-S 01 A 0 B 0 GG-F 11 RX02S 111 B 0 B 1 A=F 11 RX02S 111 B 0 B 1 A=F 20 11 RX02S 111 B 11 RX02S 11 RX02S 11 B 11 RX02S 11 RX02S 11 B 11 RX02S 11		a 5.	unidad o	le Contro	6
00 R+3 01 R-S 01 A 01 R-S 01 A 01 R-S 01 A 0 B 0 GG-F 11 RX02S 111 B 0 B 1 A=F 11 RX02S 111 B 0 B 1 A=F 20 11 RX02S 111 B 11 RX02S 11 RX02S 11 B 11 RX02S 11 RX02S 11 B 11 RX02S 11	(1) C3C2 F	CC	Fatada 0	E L L C	
01 R-S 10 RANDS 10 B A 0 BA-F 11 RXORS 11 B B A 1 A-F W W Hacenes A xor A que develor O y 6 mete en el registro A Cy 1 C3 1 C2 1 C1 C C0 Quegod pero en B Cy. 1 C3-1 C2-1 C1 C C0 W Egod pero en B Cy. 1 C3-1 C2-1 C1 C0 W EB-A-B Cy O C3 O C2 C C4. O C6 1 W A-A-B Cy C3 O C2 C C1 C1 C0 IR Ecosy (a) LOND OOF d SUB OOF d STORE O10 d JT 10 cd JT					
10 RANDS 10 B A O BEF 11 RX0RS 11 B B B 1 A-F 20 (A) Hacernos A xor A que devolve O y 6 mete en el registro A (Cy 1 C3 1 C2 1 C1 0 C0 0 (D) ignol pero en B (Cy 1 C3 1 C2 1 C1 1 C0 1 (D) B-A-B (Cy 0 C3 0 C2 1 C1 0 C0 1 (D) B-A-B (Cy 0 C3 0 C2 1 C1 0 C0 1 (D) A-A-B (Cy 0 C3 0 C2 1 C1 0 C0 1 (D) Codificación de las instrucciones IR (1000) (D) E SUB OOF d SUB OOF d STORE O10 d C Codinin entre A-entrada is STORE O10 d JEP 110 d C) DATAPATH (S) DATAPATH (D) DA	01 R-S				C4 Acción
A Cy 1 C3 1 C2 1 C1 0 C0 10 (A) Egypt pero an B (A) 1 C3 1 C2 1 C1 1 C0 1 (B) A-A1B C4 1 C3 0 C2 0 C4 0 C0 1 (B) A-A-B C4 0 C3 0 C2 1 C1 0 C0 1 (B) A-A-B C4 0 C3 0 C2 1 C1 0 C0 1 (B) Codeficación de las instruccioness IR Ecosól (d) d= Habb altrecto (1) / indirecto (o) LOAD 00 F d STORE 010 d STORE 010 d C) DIMPORTH (S) DIMPO	10 RANDS	10			0 84
DHOCEMAN A XOT A que clevelor O y 6 mete em el registro A Cy 1 C3 1 C2 1 C1 O C0 0 Dignel pero en B Cy 1 C3-1 C2 1 C1-1 C0 1 DiG A-A16 Cy 1 C3 0 C2 0 C4 0 C6 1 DB A-B Cy 0 C3 0 C2 1 C4 0 C6 1 DA A-B Cy 1 C3 0 C2 1 C4 0 C6 1 DA A-B Cy 1 C3 0 C2 1 C4 0 C6 1 TR COOP (d) de Hade directo (4) / indirecto (0) LOAD OOF d = Fincen ALU=0 dyar para entrada cia STORE O10 d = 1 cestar A-entrada 1 STORE O10 d = 1 cestar A-entrada 1 TO DATAPATH S D	11 RXORS	11			1 ACF
Cy 1 C3 1 C2 1 C1 0 C0 0 (a) igned pero an B (b) C4 1 C3 1 C2 1 C1 1 C6 1 (c) B A A A B C4 1 C3 0 C2 0 C4 0 C6 1 (d) B A A B C4 1 C3 0 C2 1 C4 0 C6 1 (d) A A A B C4 1 C3 0 C2 1 C4 0 C6 1 (d) A C5 0 C6 1 (e) A C6 0 C6 1 (f) Fencien ALV = 0 deject general catedod c4	a				
Cy 1 C3 1 C2 1 C1 0 C0 0 (a) igned pero an B (b) A = A+B (cy 1 C3 0 C2 1 C4 0 C6 1 (c) B = A-B (cy 0 C3 0 C2 1 C4 0 C6 1 (d) A = A - B (cy 1 C3 0 C2 1 C4 0 C6 1 (d) A = A - B (d) C3 0 C2 1 C4 0 C6 1 (d) A = A - B (e) A = A - B (f) A = A - B (g) A =	@ Hacema A xor A	que devolve	0 y 6 mete	en el registro	A
Cy. 1 C3-1 C2-1 C1-1 C6-7 b) G A=A1B Cy C C3-0 C2-0 C4-0 C6-1 G B=A-B Cy O C3-0 C2-1 C4-0 C6-1 G A=A-B Cy 1 C3-0 C2-1 C4-0 C6-1 TR CCCOOP Cd) LOAD OOF d SUB OOF d STORE O10 d STORE O10 d STORE O10 d SC 10 C d JMP 110 d C) DATAPATH The Third of The Cooper Cy Substitute (C) LOAD OOF CONTRACT STORE O10 d SC 10 C d JMP 110 d C) DATAPATH The Third of The Cooper Cy Substitute (C) SC 10 C d					
Cy. 1 C3-1 C2-1 C1-1 C6-7 b) G A=A1B Cy C C3-0 C2-0 C4-0 C6-1 G B=A-B Cy O C3-0 C2-1 C3-0 C6-1 G A=A-B Cy 1 C3-0 C3-0 C3-0 C3-0 G A=A-B Cy 1 C3-0 G A=A					
b) G A-A1B Cy 1 Cs 0 Cs 0 Cs 0 Cs 1 G B-A-B Cy 1 Cs 0 Cs 1 Cs 0 Cs 1 G A-A-B Cy 1 Cs 0 Cs 1 Cs 0 Cs 1 G A-A-B Cy 1 Cs 0 Cs 1 Cs 0 Cs 1 G A-A-B Cy 1 Cs 0 Cs 1 Cs 0 Cs 1 G A-A-B Cy 1 Cs 0 Cs 1 Cs 0 Cs 1 G A-A-B Cy 1 Cs 0 Cs 1 Cs 0 Cs 1 G A-A-B Cy 1 Cs 0 Cs 1 Cs 0 Cs 1 G A-A-B Cy 1 Cs 0 Cs 1 Cs 0 Cs 1 G A-A-B Cy 1 Cs 0 Cs 1 Cs 0 Cs 1 G A-A-B Cy 1 Cs 0 Cs 1 Cy 1 Cs 0 Cs 1	@ ignal pero en B				
b) G A-A1B Cy 1 Cs 0 Cs 0 Cs 0 Cs 1 G B-A-B Cy 1 Cs 0 Cs 1 Cs 0 Cs 1 G A-A-B Cy 1 Cs 0 Cs 1 Cs 0 Cs 1 G A-A-B Cy 1 Cs 0 Cs 1 Cs 0 Cs 1 G A-A-B Cy 1 Cs 0 Cs 1 Cs 0 Cs 1 G A-A-B Cy 1 Cs 0 Cs 1 Cs 0 Cs 1 G A-A-B Cy 1 Cs 0 Cs 1 Cs 0 Cs 1 G A-A-B Cy 1 Cs 0 Cs 1 Cs 0 Cs 1 G A-A-B Cy 1 Cs 0 Cs 1 Cs 0 Cs 1 G A-A-B Cy 1 Cs 0 Cs 1 Cs 0 Cs 1 G A-A-B Cy 1 Cs 0 Cs 1 Cy 1 Cs 0 Cs 1	Cy 1 C3 1	C2 1	C1: 1	61	
(B=A-B) (4 0 (3 0 (2 1 (3 0 (6 1)))) (B=A-B) (4 1 (3 0 (2 1 (3 0 (6 1))))) (B=A-B) (4 1 (3 0 (2 1 (3 0 (6 1))))) (B=A-B) (4 1 (3 0 (4 1)))) (B=A-B) (4 1 (3 0 (4 1))) (B=A-B) (4 1 (3 0 (4 1))) (B=A-B) (4 1 (4 1)) (B=A-B) (4 1 (4 1)) (C) Confidence of the co					
(3) A=A-B	6) G A- A+B C4	1 Cs 0	C2 0 G. 0	Co 1	
[3] b) Codificación de las instrucciones IR [coop [d]] LOAD OOF d LOAD OOF d SUB OOF d STORE C10 d C = Cardinión sollo = O Sollar sign E JE 10 C d JMP 110 d C) DATA PATH PC SOLER HIR PC SOLER LAPE PC SOLE		0 (3.0	C2 1 C1.0	61	
IR (coop d) d = Node directo (1) / indirecte (0) LOAD OOF d f = Finish ALU = O depar person entroda creq SUB 100 F d STORE 010 d C = Condition solto = O Solton sign t (Indirecte) = 1 solton sign C SC 10c d JMP 110 d C) DATAPATH F T T 18 P C Solton sign C IR di R P C Solton sign C IR di R P C Solton Sign C Solton Sign C TR di R P C Solton Sign C TR di R P C Solton Sign C TR di R TR	3 A=A-B C4	1 C3 O	C2 1 C1 0	Co. 1	
IR (coop d) d = Node directo (1) / indirecte (0) LOAD OOF d f = Finish ALU = O depar person entroda creq SUB 100 F d STORE 010 d C = Condition solto = O Solton sign t (Indirecte) = 1 solton sign C SC 10c d JMP 110 d C) DATAPATH F T T 18 P C Solton sign C IR di R P C Solton sign C IR di R P C Solton Sign C Solton Sign C TR di R P C Solton Sign C TR di R P C Solton Sign C TR di R TR					
LOAD OOF d F = Funcian ALU = O degar passar entreda cog SUB OOF d STORE 010 d C = Cardinión solto = O Soltar segun E (Indurente) 1 Scaltar segun C SC 10c d JMP 1100l C) DATAPATH F - UN,DAD DE CARTELL LAS A F C SOLGARDEL SS BUS UNELTO GOMBAL SES SOLGARDEL LAS A SOLGARDEL L	(13) b) Codificación	de las instruc	Lones		
SUB OOF d STORE 010 d C = Condition sollo = O Sollar segun E JE 10 c d JMP 110 d C) DATAPATH SOLUTION SOLUTIO	IR Ccoop	(d)	d≡ Made d	Urecto (1)/ in	directo (0)
STORE 010 d C = Cardición solto = O soltar sign E JE 10cd JA Soltar sign C SC 10cd JMP 110d C) DATAPATH F - UN DAD OC CONTRUL LOS A ENA - 8 S BUS IN PERFO 60 MORE A 5 8			f = Finan		
JE 10cd SC 10cd JMP 110d C) DATAPATH S T T UNIDAD DE CONTROL Lide A PC G LOPE INCRE S SUS IN KERN GOMON A IS			- (-)		
SC 10cd JMP 110d C) DATAPATH S T T UNIDAD DE CONTRUL Lda A PC G LAPE Lda A PC G LAPE S T S ENR S S S S S ENR ENT S SUS UNIETRO ENT S S S S S S S S S S S S S S S S S S S				(te)	
C) DATAPATH 8 2 2 UN,DAD 10 CONTROL Like A PC LAPE 10 FIRE 1					30, C
S Bus where 60 mon \$ 18	JMP 1100	d			
Like A S Sus merro Enmon A S Sus merro Enmon A S S Sus merro Enmon A S S	DATAPATH -			4	
Lda A PC GOMON AS SENTE		78		1	
ENA - 8 Bus interno comon \$15	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1		IIC	GIR '
ENA - \$ 8 Sus interno 60 Mon \$ 18	· Lda J D		06 6 6	IPC	
8 Bus interno Enmon As Is			1 +8	COPE 14	1
1 1000 1 (1000 20	18		MOR AS IS		
MAR K-LAMAR LAMBRIOR	Mag		MBR Lan	IBR WR	
Bus de glaverage & Memoria 8	Bis de	MEMORIA	8		

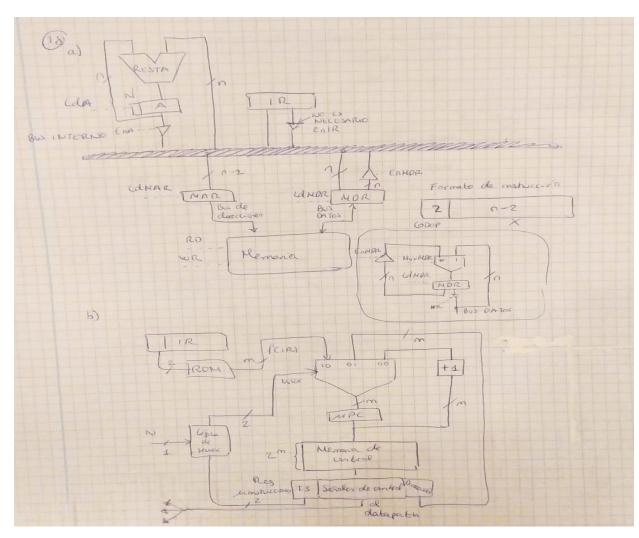




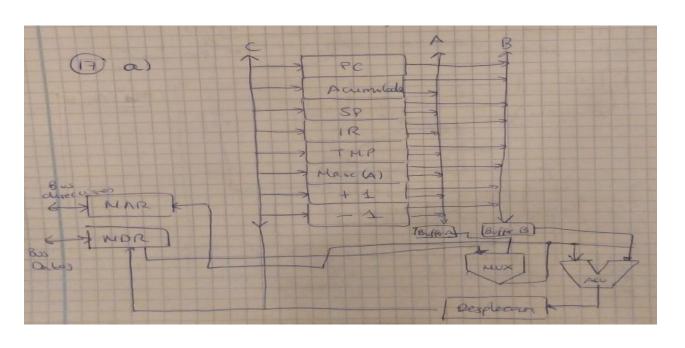


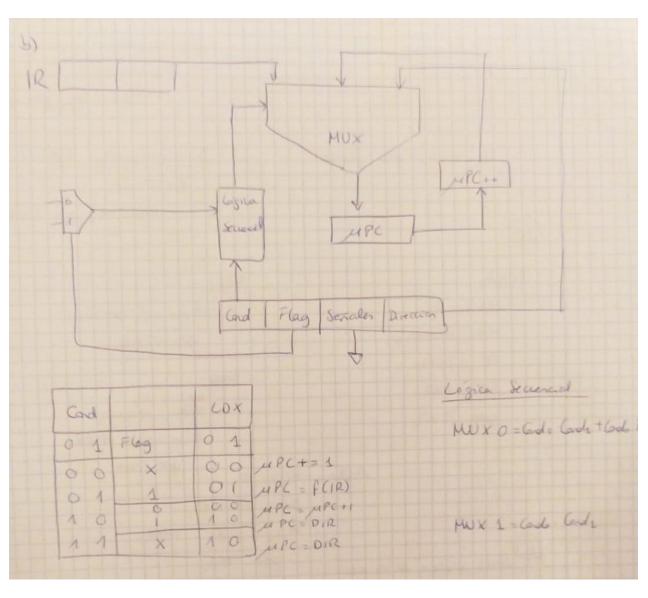


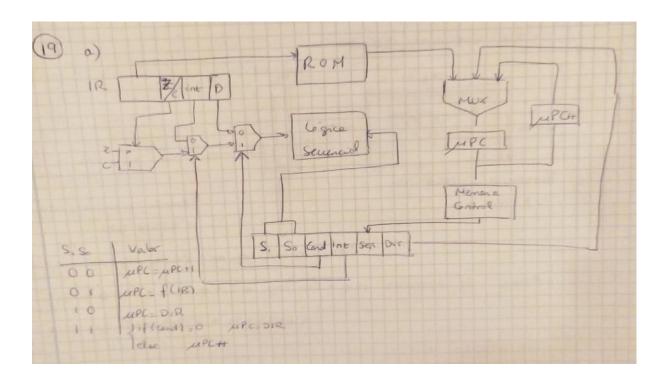


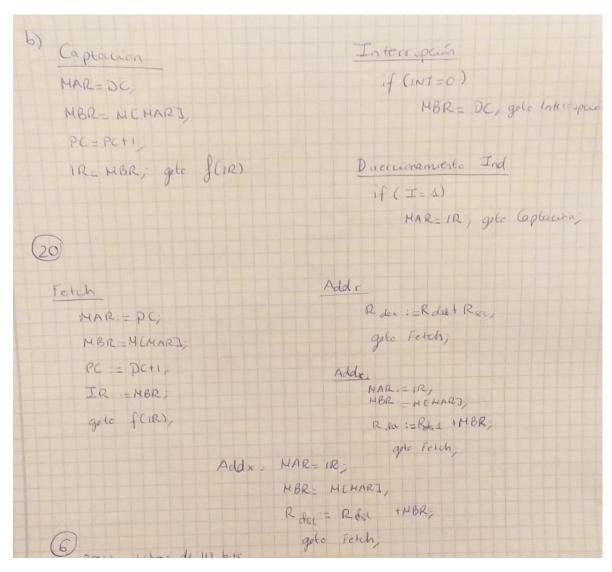


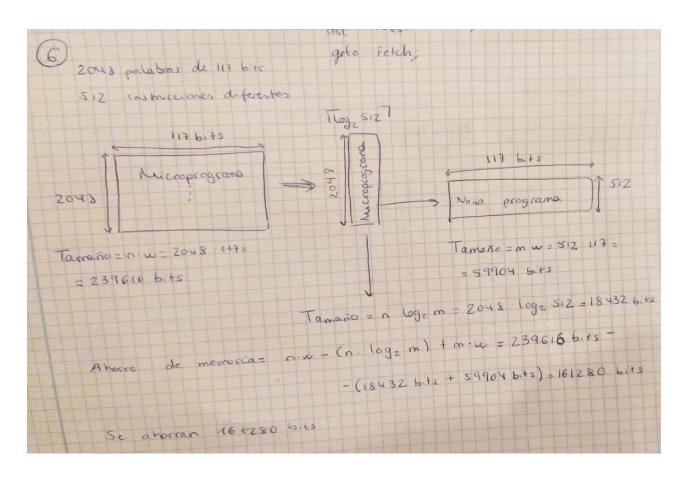
TSI TS	io N	Significado	Mux!	wx o
0 0		uPC=uPC+1	0	
0		MPC - Direction	0	
1	0 -	upc 6 f (IR)	1	G
1	1 0	I NEO gele Direction	0	
11.	1 1	else MPCA-MRII	0	0
	OP ROG			
		de instrucción MAR = PC		
1640	n .	MOR = M(MAR), PI	C = PC +1	
		IR := MOR		
		golo (CIR)		
50	вх			JMPNEG X
	1	HAR: = KIRN MOR		of N=O goto Fetch
		MOR = MIMAR] A = A - MOR; goto Fet	ch	PC = \land , goto Fetch
STA	05 X			
310	DRE X	MAR = JIR MAR		
		NOR:= A		
		MCMARJ:= MOR; geto	Fetch	











5) lerguage maquina	
SUB X ; AC A-MEX]	1) A valor arbitrano
STOREX; MIXIE A	2) 4>=0
JMPNE6 x , Saltar a X Si Aco	3) W>=0
	4) UNO-1
R=N*N	5) Al frobres Rerestado
R=0 Repetrs H veces la construcción	6) My Ndeben geder and