

5321 Homework 2.1

Summer 2019

Test case table is as follows:

Test Case	Current State	Next State	Inputs				Exp Outputs			
			D	G	P	Z	B	I	T	X
1	Start	OFF	0	0	0	0	0	0	0	0
2	OFF	OFF	1	0	0	0	0	0	0	0
3	OFF	L	0	1	0	0	1	0	1	0
4	OFF	U	0	0	1	0	1	0	0	1
5	OFF	OFF	0	0	0	1	0	0	0	0
6	L	L	1	0	0	0	1	0	1	0
7	L	L	0	1	0	0	1	0	1	0
8	L	OFF	0	0	1	0	0	0	0	0
9	L	L	0	0	0	1	1	0	1	0
10	U	U	1	0	0	0	1	0	0	1
11	U	U	0	1	0	0	1	0	0	1
12	U	OFF	0	0	1	0	0	0	0	0
13	U	X5	0	0	0	1	1	0	0	2
14	X5	N	1	0	0	0	1	1	0	2
15	X5	X5	0	1	0	0	1	0	0	2
16	X5	X5	0	0	1	0	1	0	0	2
17	X5	X10	0	0	0	1	1	0	0	3
18	N	X5	1	0	0	0	1	0	0	2
19	N	N	0	1	0	0	1	1	0	2
20	N	N	0	0	1	0	1	1	0	2
21	N	N	0	0	0	1	1	1	0	2
22	X10	X10	1	0	0	0	1	0	0	3
23	X10	X10	0	1	0	0	1	0	0	3
24	X10	X10	0	0	1	0	1	0	0	3
25	X10	U	0	0	0	1	1	0	0	1

Sequence enumeration table is as follows:

Length	Sequence	Response	Equivalence	Carry to next level
0	idle	B=0, I=0, T=0, X=0	idle	
1	D	B=0, I=0, T=0, X=0	idle	
	G	B=1, I=0, T=1, X=0	-	Yes
	P	B=1, I=0, T=1, X=1	-	Yes
	Z	B=0, I=0, T=0, X=0	idle	
2	GD	B=1, I=0, T=1, X=0	G	
	GG	B=1, I=0, T=1, X=0	G	
	GP	B=0, I=0, T=0, X=0	idle	
	GZ	B=0, I=0, T=1, X=0	G	
	PD	B=1, I=0, T=0, X=1	P	
	PG	B=1, I=0, T=0, X=1	P	
	PP	B=0, I=0, T=0, X=0	idle	
	PZ	B=1, I=0, T=0, X=2	-	Yes
3	PZD	B=1, I=1, T=0, X=2	-	Yes
	PZG	B=1, I=0, T=0, X=2	PZ	
	PZP	B=1, I=0, T=0, X=2	PZ	
	PZZ	B=1, I=0, T=0, X=3	-	Yes
4	PZDD	B=1, I=0, T=0, X=2	PZ	
	PZDG	B=1, I=1, T=0, X=2	PZD	
	PZDP	B=1, I=1, T=0, X=2	PZD	
	PZDZ	B=1, I=1, T=0, X=2	PZD	
	PZZD	B=1, I=0, T=0, X=3	PZZ	
	PZZG	B=1, I=0, T=0, X=3	PZZ	
	PZZP	B=1, I=0, T=0, X=3	PZZ	
	PZZZ	B=1, I=0, T=0, X=1	P	

Canonical Sequence are = G, P, PZ, PZD, PZZ