Second Term Evaluation

Demonstrating as an engineer my knowledge and skills in FSM

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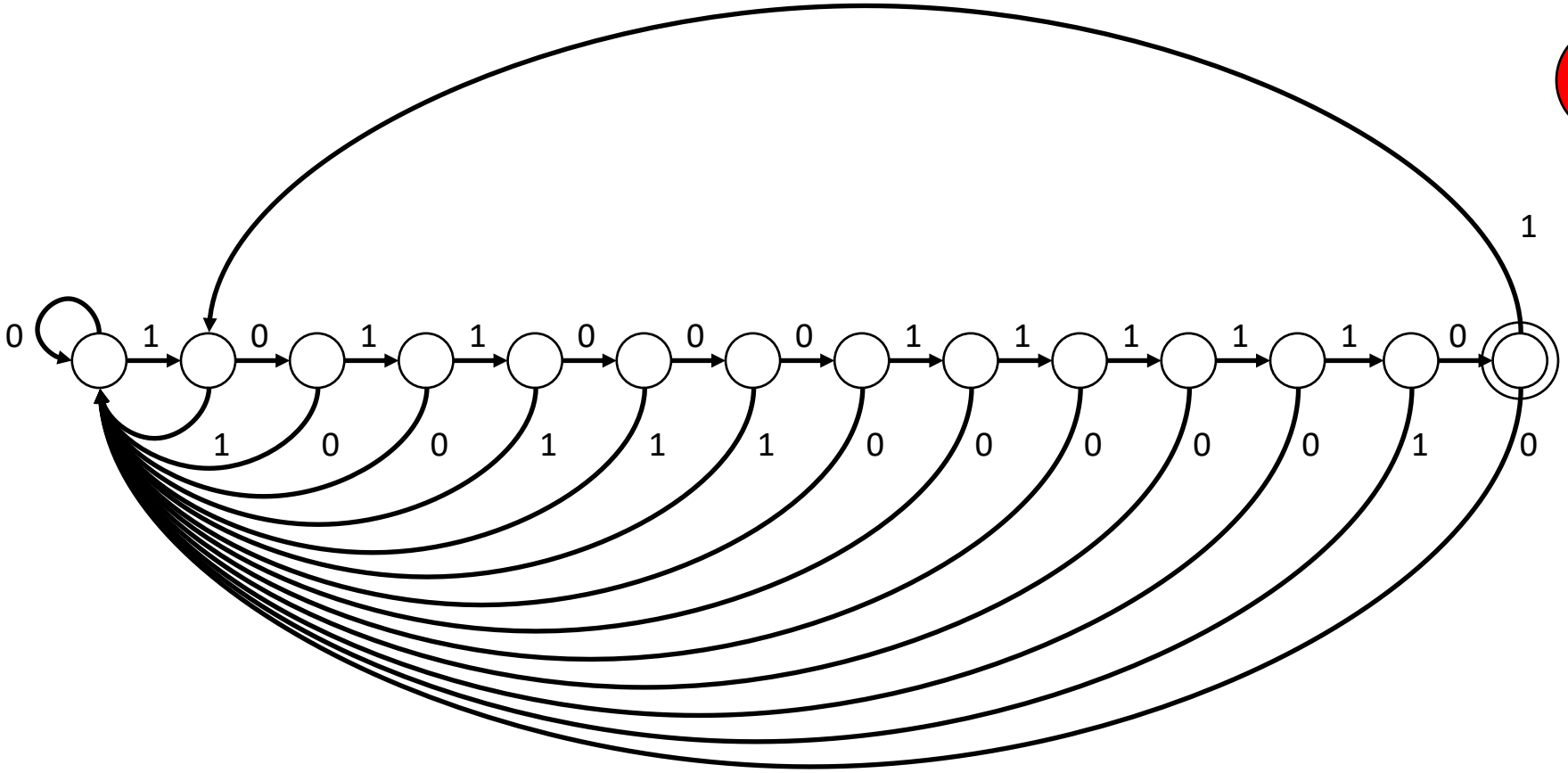
2023

“Si no estás fallando, no estás sobrepasando tus límites, y si no estás sobrepasando tus límites, no estás maximizando tu potencial”

Ray Dalio

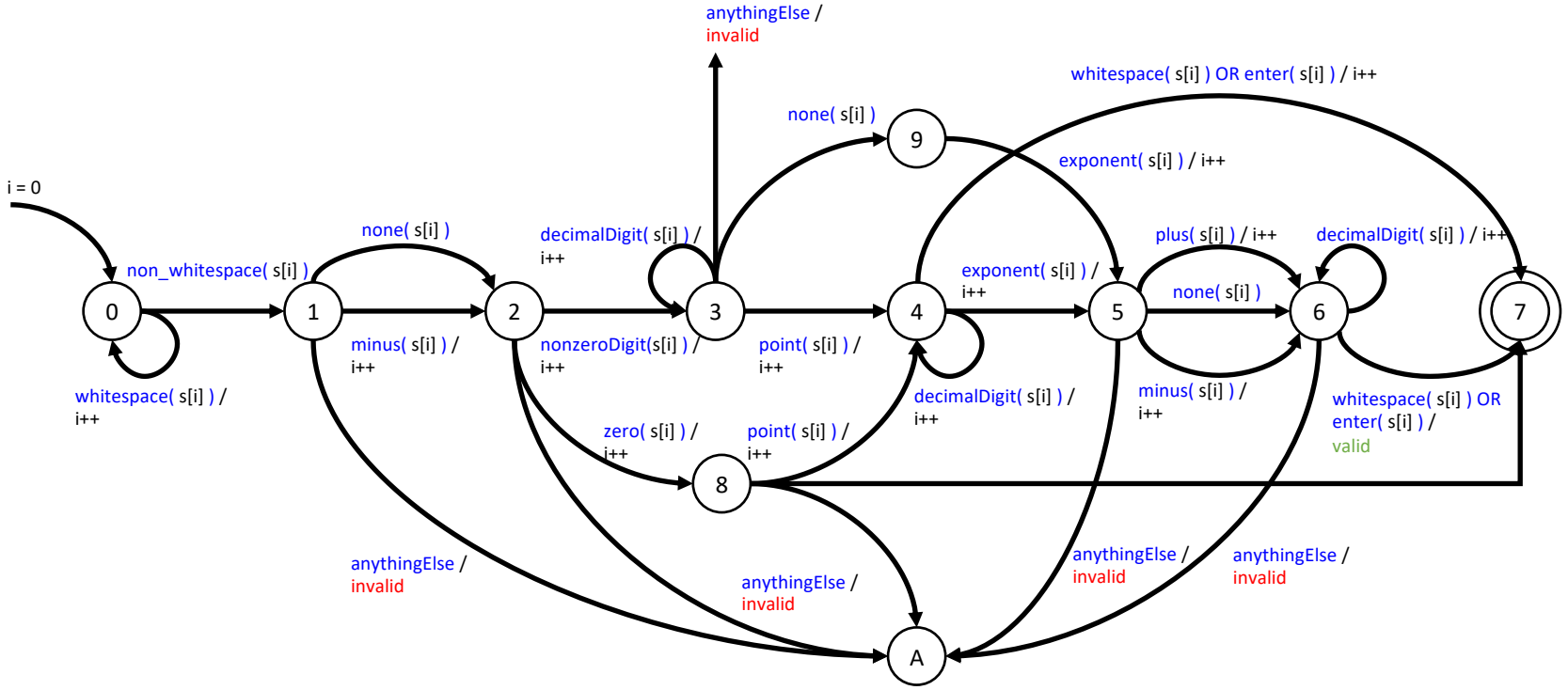


DRAWING TITLE: SETI Project		
PROJECT: Second Term Evaluation		
DRAWN BY: Ing. Juan C. Giraldo, Ph.D.	SHEET	REV.

2	.	5	6	e	-	5
1	0	.	4	3	7	8
1	2	e	-	7		
0	.	5				

0	x	5	A	e	-	5
0	2	.	4	1		
F	2	.	3	3		
1	,	2	e	3		

2

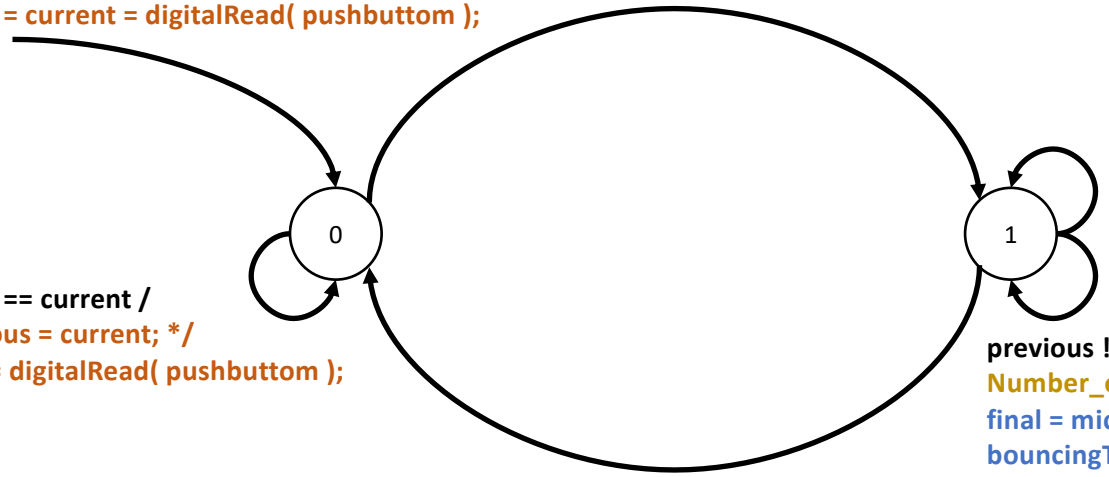


	DRAWING TITLE: Float literal constant	
	PROJECT: Second Term Evaluation	
	DRAWN BY: Ing. Juan C. Giraldo, Ph.D.	SHEET / REV.

No.	ESTADO
0	WAITING_FIRST_EDGE
1	COUNTING_BOUNCES

NULL /
int pushbuttom = 3;
Serial.begin = 9600;
pinMode(pushbuttom, INPUT);
previous = current = digitalRead(pushbuttom);

previous != current /
Number_of_Bounces = 0;
bouncingTime = 0;
sendingTime = 10000;
initial = final = micros();
previous = current;
current = digitalRead(pushbuttom);



final – initial < sendingTime /
final = micros();
previous = current;
current = digitalRead(pushbuttom);

previous == current /
/* previous = current; */
current = digitalRead(pushbuttom);

previous != current /
Number_of_Bounces++;
final = micros();
bouncingTime = final - initial;
sendingTime = (bouncingTime << 1 < sendingTime ?
sendingTime : bouncingTime << 1);
previous = current;
current = digitalRead(pushbuttom);

final – initial >= sendingTime /
Number_of_Bounces >>= 1;
Serial.print("Rebotes: ");
Serial.println(Number_of_Bounces);
Serial.print("Tiempo: ");
Serial.print(bouncingTime);
Serial.println(" microsec");
previous = current = digitalRead(pushbuttom);

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	DRAWING TITLE: Bouncing Analysis		
	PROJECT: Second Term Evaluation		
	DRAWN BY: Ing. Juan C. Giraldo, Ph.D.	SHEET	REV.

```
void setup()
{
pinMode( key, INPUT);
pinMode( buzzer, OUTPUT);
}

void spaceGun( int maximum )
{
for( int i = 0; i < maximum; i++ ) {
            digitalWrite( buzzer, HIGH );
            delayMicroseconds( i );
            digitalWrite( buzzer, LOW );
            delayMicroseconds( i );
}

} /* spaceGun */

void loop()
{
if( digitalRead( key) == HIGH ) {
            spaceGun( 1000 );
}

} /* loop */
```

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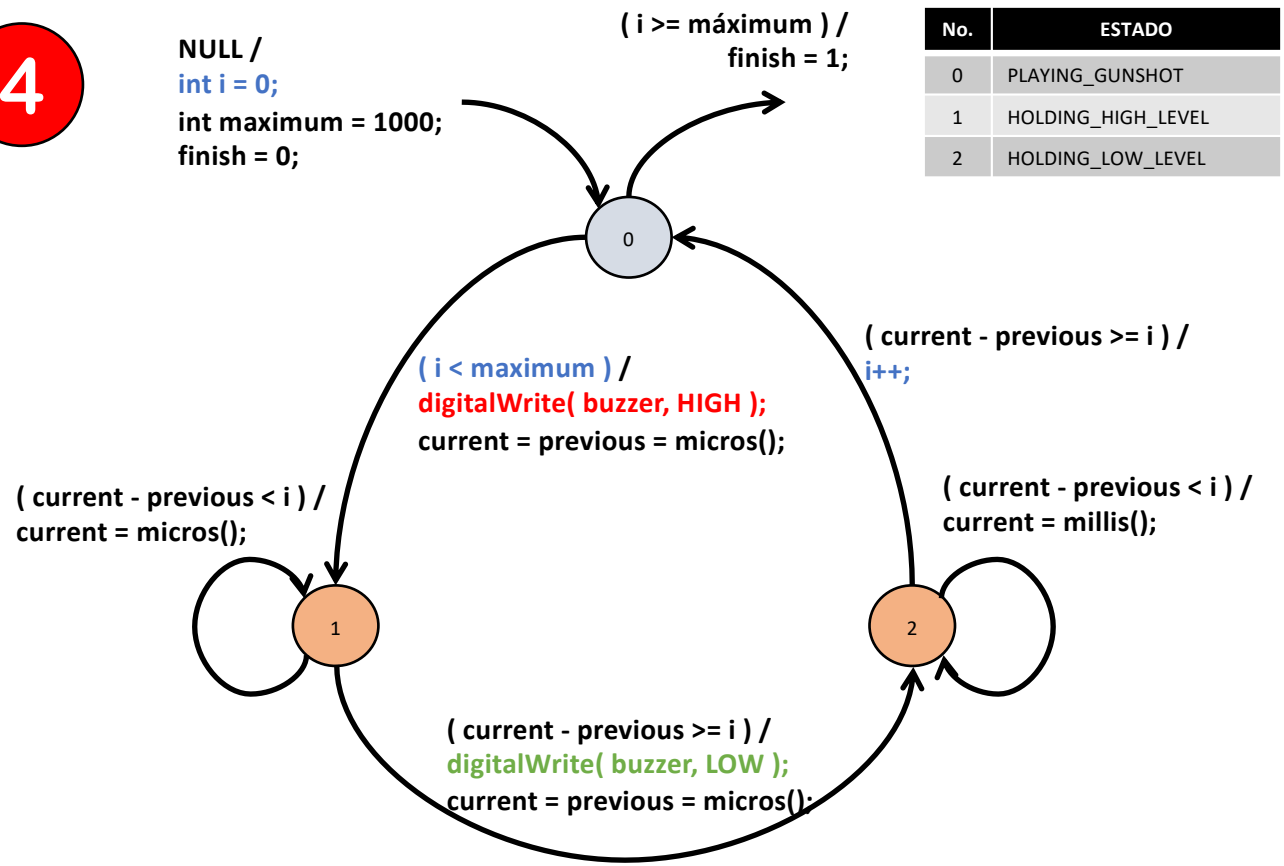

No.	ESTADO
0	PLAYING_GUNSHOT
1	HOLDING_HIGH_LEVEL
2	HOLDING_LOW_LEVEL

	DRAWING TITLE: SpaceGun Sound		
	PROJECT: Second Term Evaluation		
	DRAWN BY: Ing. Juan C. Giraldo, Ph.D.	SHEET	REV.