

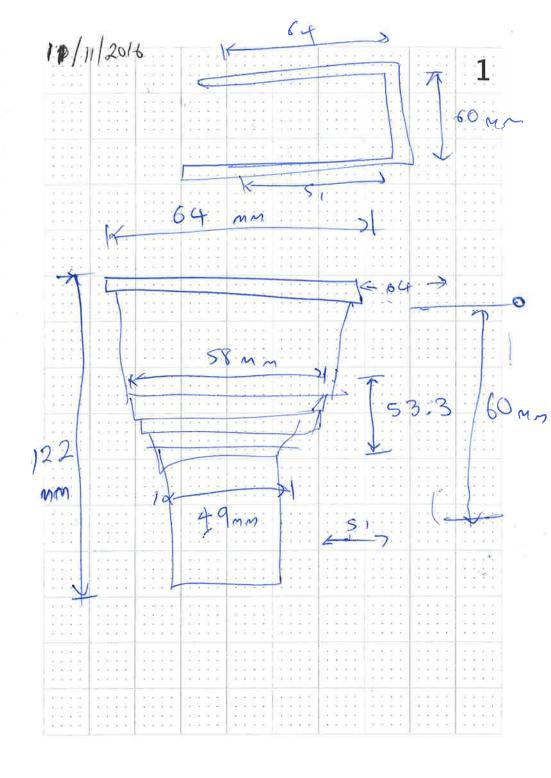
Engineering Logbook

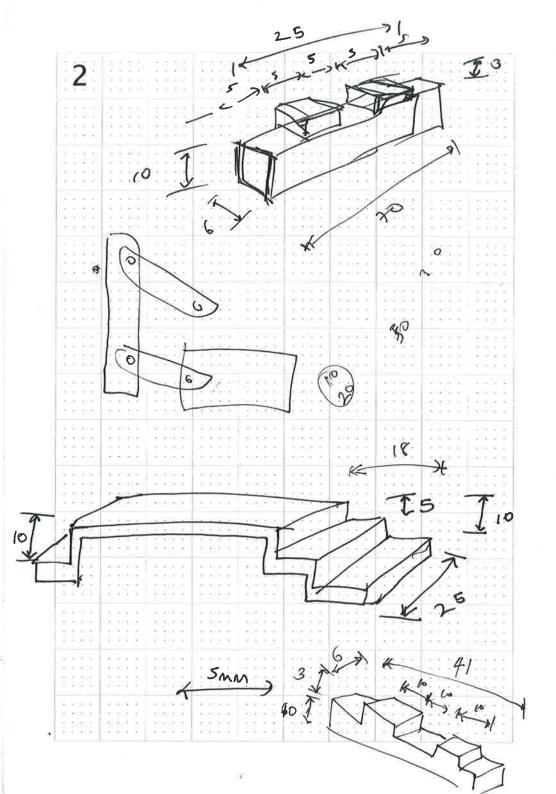
Name: Okpalaba Chibaika
Student No.:
Module: PDE 1430
Project Title: Mechafonics
Dates:

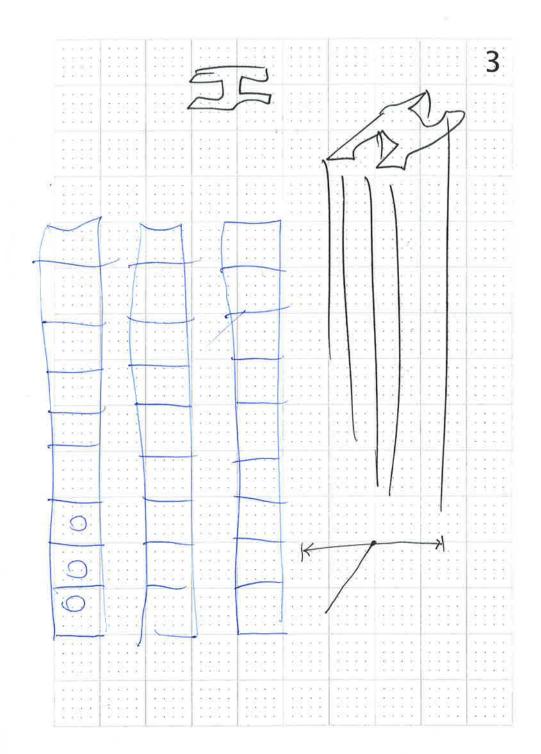
Quantity	Usual Symbol	Unit	Unit symbol
Voltage	V	Volt	V
Current	1	Amp	A
Charge	Q	Coulomb	C
Resistance	R	Ohm	Ω
Capacitance	C	Farad	F
Inductance	L	Henry	H
Reactance	X	Ohm	Ω
Impedance	Z	Ohm	Ω
Power	Р	Watt.	W
Energy	E	Joule	J
Time	1	Second	S
frequency	f	hertz	Hz

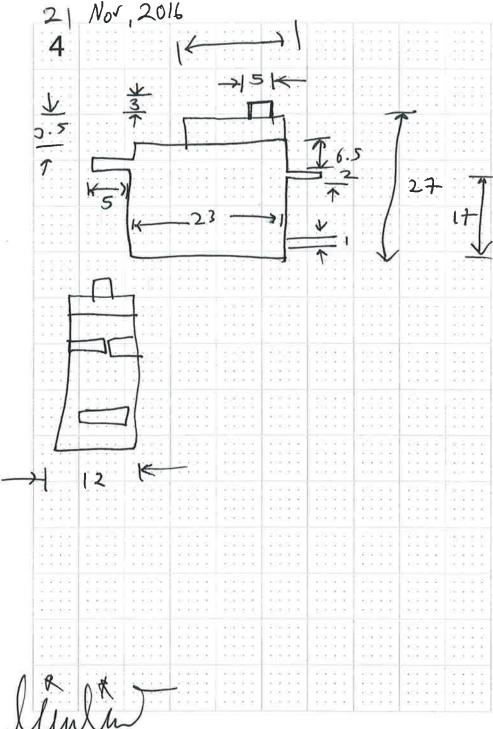
Milli (m)	Micro(µ)	Nano (n)	Pico (p)
0.000 000 001	0.000 001	0.001	1
0.000 000 01	0.000 01	0.01	10
0.000 000 1	0.000 1	0.1	100
0.000 001	0.001	1	1000
0.000 01	0.01	10	10 000
0.000 1	0.1	100	100 000
0.001	1	1000	1000 000
0.01	10	10 000	10.000.000
0.1	100	100 000	100 000 000
1	1 000	1 000 000	1 000 000 000

Prefix	Prefix Symbol	Value
Pico	P	0.000 000 000 001
Nano	0	0.000 000 001
Micro	ш	0.000 001
Milli	/m	0.001
Centi	C	0.01
Deci	d	0.1
(none)	*	1
Deca	D	10
Hector	h	100
Kilo	k	1 000
Mega	M	1 000 000
Giga	G.	1 000 000 000
Tera	T	1 000 000 000 000

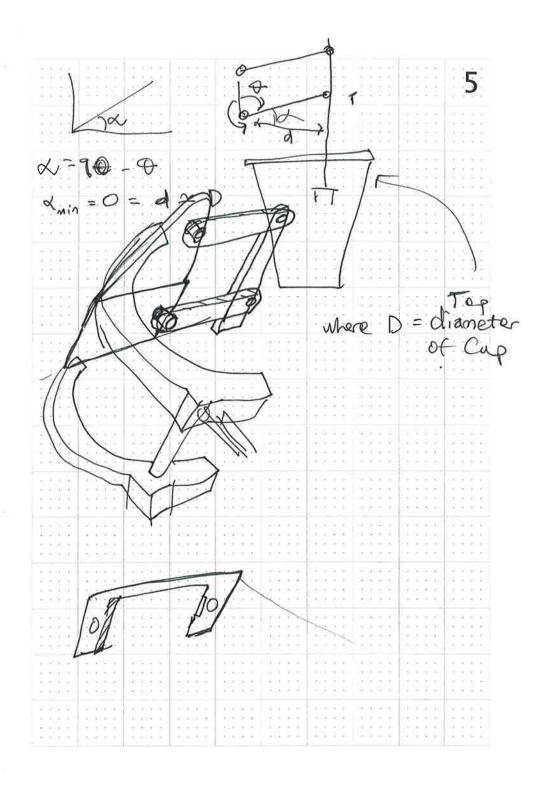




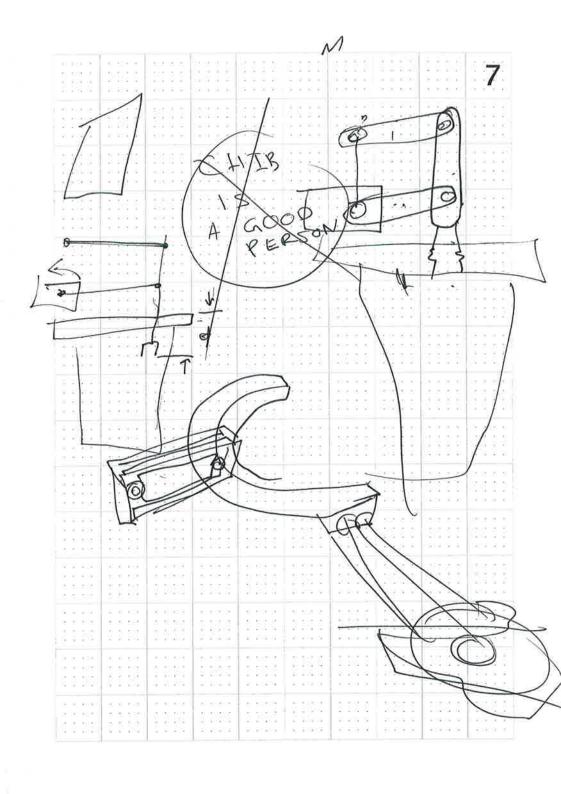




,



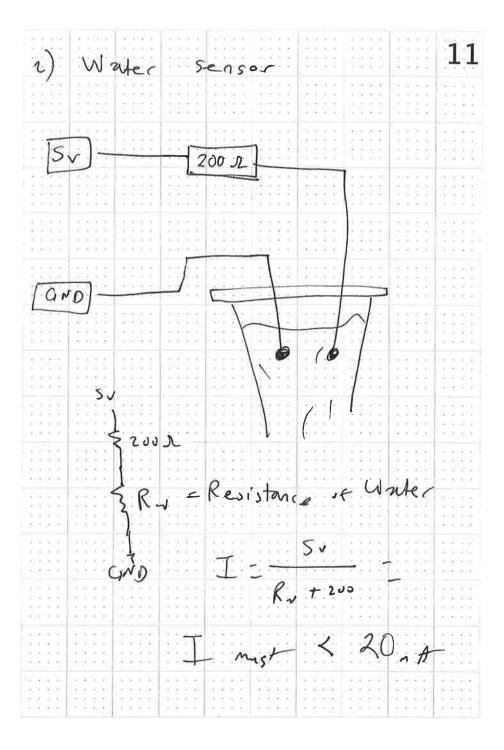
	6 SE 1638 SE	X003 # B0CE E	EXIGE:	E3 X E	00E E X	0003 30 (4)	4.50 DE R
6		9.83 P 1873 S	550.00.00	52.5		200	6.00 (0.00)
U		1991 S WEED B	304.8	200 8 8	1000 2 5	155 3 3	23 Y V
2 0 7750 : 0	2: 3 5/5:						587 37 8
REPRESENTATION OF THE PARTY OF	61 N 10 10 10 10 10 10 10 10 10 10 10 10 10	0.63 S 800 S 8	EOCH X	EST 30 X	2003-00-0	000 00 00	E3 0 a
X X 5 16 3 X 3		0.048 55533	10000	133.35.3	180 S S	1000 0 10	100 OF 15
작용 등 통령에 요 있다	3 3 100 1	2 92 0 NEE 2	33/48	35.3.3	26.5	125 0 1	33 5 8
3 8 8 6 2 2 2							
X & 20 Ki & X X	D3 E 80000	X 529 0	103011-18	631 25 35	100 8 10	165-31 OF 35	E23 DE H
	- /\	# 187 W 10707 F	575375 (5	103.73.0	2003 8 6	58.8.5	525 35 35
3 2 5 5 7 7 8	/	\	22479 9	201 10 10	100 2 2	100 0 0	100
0.0000000000000000000000000000000000000	/			P.534 TH. 14	10 m m	10.714	154 S W
W 90 90 90 W 90 90		9 00 0 0 00 00 00 00 00 00 00 00 00 00 0	E2 835 S.	100 00 00	83.5.5	PS2 9 30	COCK (C. 10)
2 2 2 3 3 5 5	COLUMN TO A STATE OF	8/809.35 16/883.35	_	53703.0	23.00	10000 10 (0)	53505.0
		5 5/4 7 1/4/1/ 5	/	270/10	224 0 0	Sec 12 (2)	145 E
TITE SE	10	2 22 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	111111111111111111111111111111111111111	1	100 % 10	D24 4 4	151 W (E)
2 K V V X X X			10 10 10 10	F = 6 / 2	53.3.8	E2 8 8	500 OF 16
200000000	1 10201	5 5 5 7 7 7 7 7 7 7 7 7 7	1,7,5,5	50000	232 8 7	70,000,000	5010 05 0
3 5 2 2 2		0.101.200 10.001	2 4/2 2	100 pa 0	200 0 0	1274 14 12	270 0 0
9 8 8 8 8 8 8 8	/	2 124 3/ 12 12 12	#35#31# - 92	120	60.8	1654 N N	151.2.2
X 8 8 8 8 8 8	/	5 53 / 1 7 85 2	401HC4 W		63.4.5	100 F (1) 10	53 9 X
	the state of the state of	5 5 5 A 5 5 A 3	E063 3		5.5 8 8	22 7 7	202 2 0
1 2 2 2 2 4 2 4 2	er û n mew l		1041		12 5 0	100 10 10	100 0 0
2 2 12 12 12	CO R +0404	X CONTRACTOR	4000 A	- 1	850 00 00	Book on W	339 5 X
			50.702.3		\	20.4 4 4	FC 4 10 10
and the second second			11222 5	3020 8	100 2 2	14.1	
0 0 1/11/1 2 1		* 44 F T T T T T T T T T T T T T T T T T	47 RE4 G	-Self-R	200 200		200 20 20
X K 400 X 6	era III. R. HERCH	K GH FEGR	1003.3	X0000X ±	E3 X X	[8:00 (8:00)	100 0 R
		V	0.072.2	2012011		100 C 00 10	
		2 8 2 3 8 8	9.335.5	27276 8	133.3.3	33.3.3	1200
1	22 2 2 2 2 2 2	A 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	\$5,800 K	*64 F F	102.00	444.4	20 2 2 2
	~ ~ ~ ~ ~ /	"x de a mesa	B 163 B	4000X H2	ESS (C.)	B074 04 (4)	ROAD R
		1	1000000				354 4 4
			0 202 E		100	100 0 0	
0 2 2 2 2 2	20 N 2000		1,322.2	25 a 17 S	F4 4 H	100	141 2 1
X 8 4040 X V	S 100	X 101 (F 17 12 7 3	X K 3 3	\$3000F S	NC34 (8)	1	133 X R
		5 101 1 N 101 3	80,000 0	111.777	/	200 2 2	1.1.0
	34 3 552	5 25 A 10 KG 3	AT BOOK IN	10702	/	352 2 2	1 33 2 2 1
	F F26 F			4874-SE (C	/		24 2 3
A X 40 0 E E	4	TENER WHOM	1010	X0000E-R	-/	E09 E 9	ECH M (8)
0.000 0.00	1	and the second	0.000	Bosos o	/		
				10100 0	/	\$5.0.0	(22 3 3)
2 2 2 2 2 3 2 3 2 3	- N - 12 1 1 1	0 00 0 0 0 00 0 x	10 809 90	/	800 0 00	160 0 0	
EXECUTE:		E 601 (F 10.00 K	2010/03/03	/	500 X 8	E 3 3 3	363 3 2
			F 104 4	1/	53 2 5	202.2.0	0.3 A A
3 2 522 3 50		NAME OF STREET	F-871.1	/:::	331 8 8	101 0 0	23 2 3
2 2 22 22 2 2 2 3		X 2 2 3 1 2 2 2 3 3	1000 3		100 0 0	100 0 0	952.5.5
3 X E3 3 X X	CH	1000	/	£0000 H	E3 9 8	0000 30 30	309 X X
3 5 507 3 707		. \	/	ALCOHOL:	Co. co. co		
			Yara Y	200012 0	101 3 3	222.8	384 8 8
2.5 500 3.00		3 3 3 3 A 1 3 4 5 5 3	40 R2n - 30	600000	65.50.50	1924 9 8	1913 2 2
X X 50 X 51	034 X E34 X	10 FOR 25 10 10 FOR 15	6 835 8	41/24034 (4)	53 9 3	1003 8 8	003 9 8
2 2 2 3 2 2 2 2	4 1 1 1 1 1 1 1	2 15 2 2 2 2 2	2500 b	2243	10.4.4	2000	
	1 2 25 5	2 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2004.0	F367 0		11111111111	2011 5 5
	COLUMN TO RESERVE	ADM 9 00 30003 8	£0009-X	E00034-14	650 00 00		\$454 K 9
8 8 52 8 53	St 1 5 88 6	\$1855 9 BEST 2	8833	539.8.8	65 8 8	351.8.8	\$10 K K
0 2 2 3 2 2 3 7	A4 8 64 5	vario parti o	2000 2	20072-0	101 5 5	200	4000
# # ## # ##		17 MER 12 - 17 MER 12	#1909 N	12079-0	252.00.00		Watt
R X RS X 800		X063 X X003 X	E000E-8	EXIDE X	6759 (6.16)		2429-34-32
8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	C8 6.52 6	1983 3 1983 3	#1201 H	10101-15	52.3	(#) # X X	31 × 8 ×



8 Cole Sequence turn on Red BTNI Close Green water < 1 deg per 1/2 Sec ていいナ Peresse Twist 3 sec grippers Turn on Red

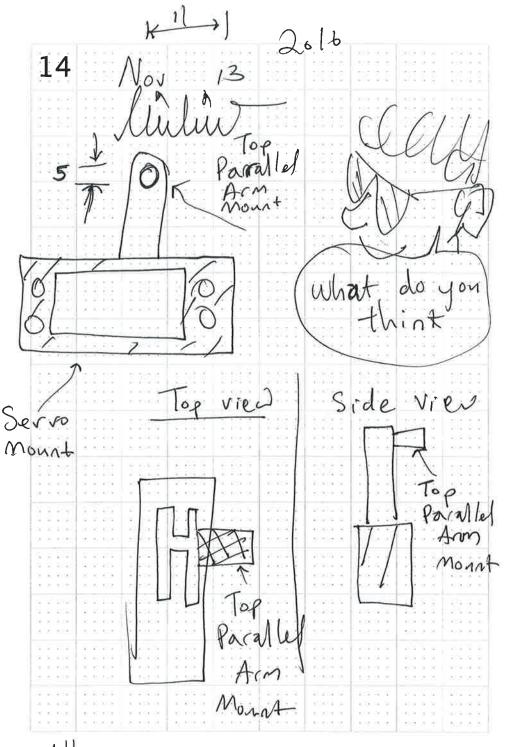
Control servo : set servo position Module the speed 50 He PWM Out Pin

10 We would need Jaws Toped we would find dutyCyde_ Close dutylate Open Usino number of autobator phone arven with one needed, because Open - duty day NOO



er senson the Senso Pos 5 5 5 5 Out Selec Cycle Sensor Position ACT OF STREET 10101-01-01 5013 13 15

13 NOS Water Level Sensor Lever Struk model Parallel Servo Cup Caron Parallel ains used to ensure senser collede with the walls of doesn't Since paralled arms can achieve a lot of we down devication the Cap. This desization is consial to avoid A collisius with The cup walls.

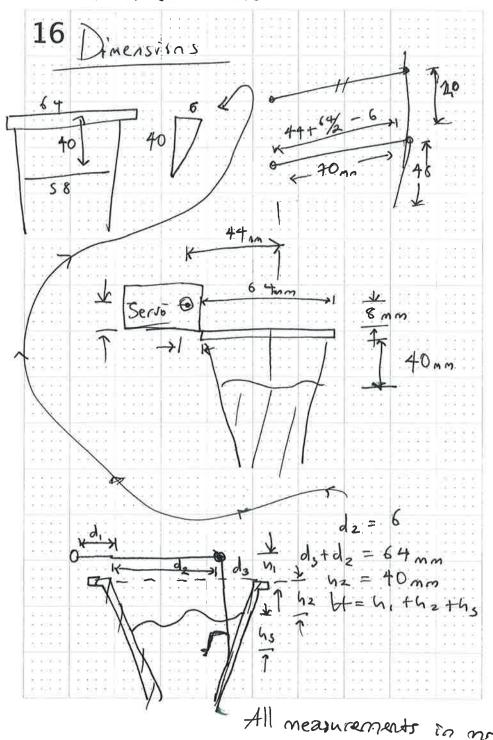


All measurements in informations

Nov 13 2016 લેંગ્રસ 10. 9 0 0 0 2 2 404 W. W. Think AT ASSESSMENT 8 F 600

All measurments in my

13 Nov 2016



13 Nov 26/6 Using a parallel arm winds ensure to The sensor is lifted up vertically

This would prevent the senser from

Crashing into the cup, while providing enough clearance

All meanisoments in rulingter

18 Pec i phrals Sensor-Servo Secvo R_ Sig

14 Nov 2016

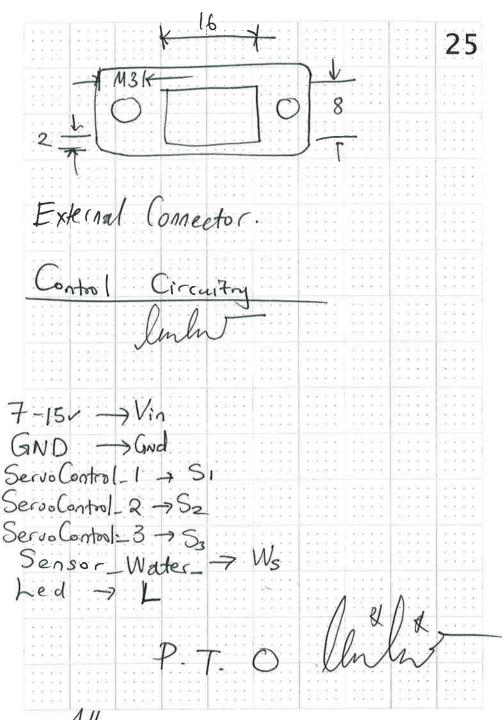
	S	asin	y the	. W	ute	22 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		Usinon	a	19	
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	H AREA		\$2.535 AV 61(6)(\$)X	224 6 H	0	Curn	stor	limit n the	3 The Sig.	- - ()
	X 0 804	Sv	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- 10 11 11 - 10 14 14 - 10 14 14		(2) The	hesi	stor	s The Siq- Stabli	3,0
	20 000000 20 000000 20 000000	2 5553 2 636 3 2 636 3	50 503 5 8 803 8 9 803 9	\$3935 (5 \$241 (4) (5 \$241 (4) (6	3	71		deid		3 2 8 8 1 3 8 7 3 8 8 8	
	1 12 1	101	. 1511 	53 X W	. / .	1	5 V V V	Resis		2 2 2 E	
	5,	9-P	<u>^</u> _	50 × 8	1	2323				3 X X E	
	0 BE S	5 B	E300 H	1	5)	5		# 8 % E		# # # # # # # # # # # # # # # # # # # #	
	504 X		600 G4 H2 507 H2 H2 507 H2 H2 508 H2 H2	7	7/1	\mathcal{Y}	3 3 3 5 5 3 5 5	(
	1050 S			/	3399				(6 (8 (8 (8))) (3 (8 (8))) (3 (8 (8)))	3 8 800 9 8 800 5 0 00	
	FORUM 15	Pa	be:	1	12 E E E	Pro be	_ 2	9 8 X 8	3 8 8 8 8 3 8 8 8	8 8 890 8 8 890	
		8	en a s		3335	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	4888		3 5 VS	2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	
	Kn	, =	2	k.	Λ	100000	2000		1110	2013	
34	- Vo	u.A.	٤ ۾	3 √	=:	out	3 2 2 2 2	3 D B/S	2073		
		21 5 5 5 5 20 5 5 5 3 6 6 7	2.2		5	v R	W		R,	N NA	
			2 0	Y 0 0 1	R	1 +	RI	v		1 11111 1 11111	
		0 2 3 3 4 4 8 1	5.		:5:v	RW	8 8 88 2 8 88		0	5 127 E	
		* * * * * * * * * * * * * * * * * * *	(* * * * *) (* * * * *)		R ,	+ R	W	——————————————————————————————————————	DM,	·×_	
	3 8 8 8	2 8 5 5	* * * * * *	8 8 8 8 8 8 8 9 8	3 8 63	S 8 83	# #0 KV#	R ASSASSA K 100009	X 53503	21 F/4 W X E/3 X	

Making Ray The subject of - 5 R W Vous (R, + R) Vout R, T Vous Ry = 51 Rx Vout R, = 5v Ry - Voyt Rw current through must less than

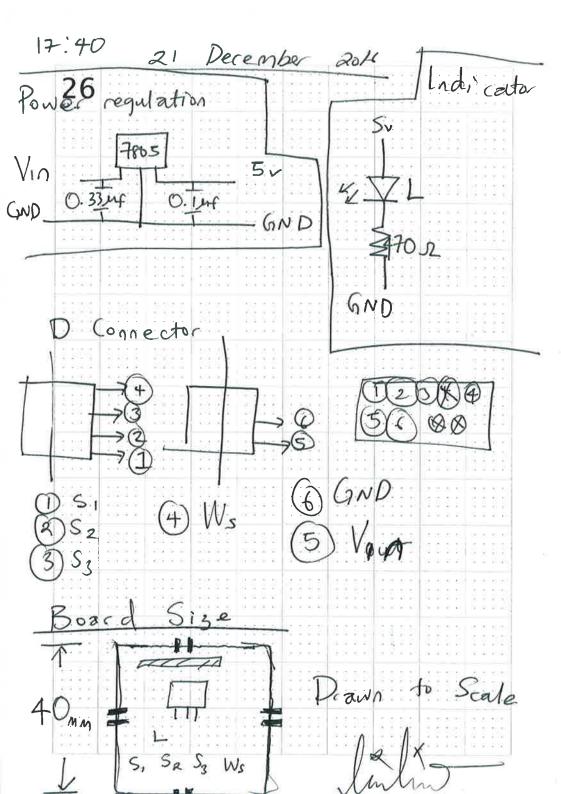
A. E. S.		20.50.12.12					1111		
2 150 5	2 22 3	E MANA A	100 0 0	10000		1111	, W ii W 20	2 0 0 2	21
X 221 15	10 EG 31	E00104 X	100 H X	3 3 8 8	932K	3 3 3 5	3 8 8 8 8	3 8 5 6	Z 1
	101	13.11	0000	9715	3888	1288	1111	3 1 7 1	2 2 2 2 2
2 27 1 1 2 20 N	FRE V	2000X X	100 X X	12 V 0 V		3335	12 H 10 E	3 X 0 B	3 2 3 3 2
A 103.3	10 100 3	1000 0100	P22 8 8	2 8 8 1	2385	2 2 8 5	11 11 11 12		9 8 900
2 272 2	2010-2	2112/52 G	575.5.0	4000	2277	5 2 5 7	TOTAL	0000	3336
20 191 6 E 83 3	40 K/3 S	F 24 25 W	163 H S S	3381	2325	2386	(4 (4 A) A) A) (8 (8 8) 8)	2355	2 2 2 4
8 53 3	E 103 1	1000	2000 B A	2.5.0.0	2255	2265	0.000	1 7 7 5	3 3 5 5 5
20 17 2 V	\$1000 A	100 S X	921 S X	9355	3323		34 R R R	2 2 2 2	3 8 404
90.853.00	181.000	600.808	2011 X 8	0.888	1586	11 15 25 55	3.8.6.6	* × * * *	8.8.500
0.04.3	50,8001.0	5.1.2.1	0.000	2000	2 2 2 2	17 8 6 5	10.00	2 0 10 10	2.0.00
\$1000 X			100	-			0 H B B B		-
10 100 2 15	7 3	MA	Telet it it			10000	3 3 5 5	14	- 7
20 dit 2	40.539 (4)	00 X K	16.04 (4) 40	3 a a 1			4 4 4 4	Ade	
20002 X	E10008-30	E3 X X	0000 E X	1	500		(8 (8) 9) 8)	1	7
100	36.6 8	10.33	6.4 + 6	5 8 8	Je.		4886	1/	/
4(90)4-9L	E20 00 00	603 X X	0000 H 10	Ψ4	W-4 7 F	1000	R R RCR	11	- 100
9/7// U	702 01 0	195 7 5	200 0 0		8 5 5 5 5		3 B B B B	PH-	
257.8	305 W W	11222	2225		4 2 2 2	4 2 2 5	2 2 1 2		X 6 13
COLOR 8	E9 X 8	EG E S	3333	2 8 X E	9888	3 3 5 5	2.8 5.80	3 8 E00	X X 634
138 8 8	22.3.3	39 9 8	2333	9888	4 9 9 9	0.000	8 8 1 3	8 8 8 8 8	9.0 %
29 7 7				* * * * *			N X 6100		0.00
02.203	RS4 8 8	201 × 5	2388	8895	9 8 8 8	2 5 5 5 5	3.8.53	8 * 63	80.00
252 S V	50100	1501 S K	3 3 3 3	4 8 8 3	2888	3 8 8 9	3 8 5 5	8 8 85%	PASS.
ECH 30 10	0.08 0.0	(90.00 (8) 9)	3386	X 20 X 10	2800	S 8 1010	8.8.680	8 x 50	8 E3
	3000	7015	1000	8888	1000	11110	1000	1 5 5 5	5 5 5 5 5 7 V
WG 0 Y	11 1 1 Y	5464	4440	4 4 4 5	****	2 2 2 2 2	V 2 RG.	2 7 25	2 1000
069 8 8		2289	3 3 5 5	(8 (8 (9 E) 1) (5 (8 (8 E) 1)	X 8 8.81	3 8 6050	8 8 630	8 9 88	K 906/8
					8 8 3 20	8 8 906A	5 2 ES		8 8 6 8 8
									* ******
2528 B K	(2 2 2 5 5) (3 5 5 5 5)	0 E K 6	18 8 8 8	3 3 5 6 6	3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	35 8 539. 3 5 5251		8 6 6 6	8 83638 X
444		2 2 2 2		2 2 2 2 2	2 2 1/2	9 9 222	2 2 23 2 2 23	2 1 2 2	1137
0.0000	4 4 8 5			3 5 5 5	3.5.52	* * * * *	8 8 5 8	8 808/8	* ***
3 5 5 3	8 8 8 8	1333	2 2 3 3	3 5 7950	6.5 300	9 8 88	8 6 88	8 222	2 1970
4888	4 2 2 1		04 95 45 45	SC 90 (0045)	9-8-630	(8) (6) (6) (6)	90 80 800	X 4000	9 227 9
8888	4 5 5 5	4888	3 8 3 8		8 8 5 8	0.232	0.038	0.000	8 5 2 3
4111					1111	2.2.22		15/01	1911
3 2 2 4 1	14 A X 6	1 0 0 K K	(N (A) A) (K)	A X FOR	A 8 69	* × ==	# 12 1000	X0 4((+))4	X 60 X
3000	6999	0.033	4 7 3 9	3 2 22	2010	8 3 88	8 N 26	9 KWW	555
			3 2 1 m	2 F 200	888		2 7 7 2 4 2 7 0 0 3	F F19/12	音楽ない
	10.00			~ ~ ~ ~					

LabVIEW MyRIO trogram 2 lortna Modules etect Water stratta G 1004/3 * * F *

ecember design parrallel arm Sensor 60 External measurements



Ill measurement in mm



New Hand Des measucements

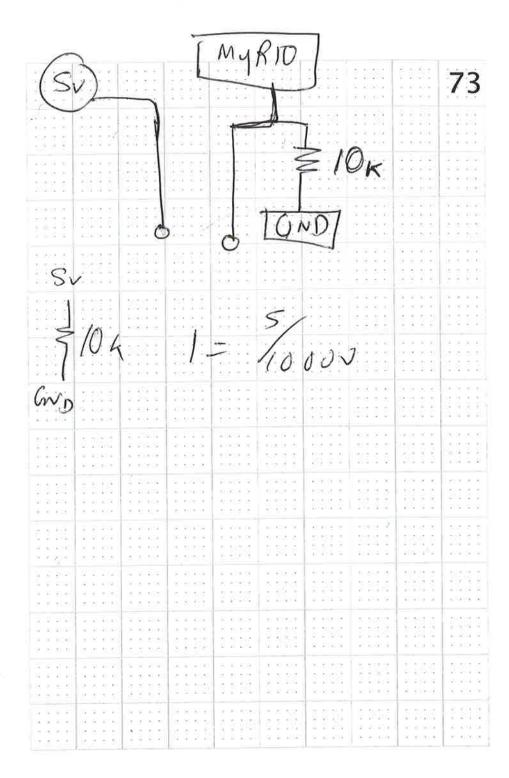
22/12/16 28 Body Roll 15

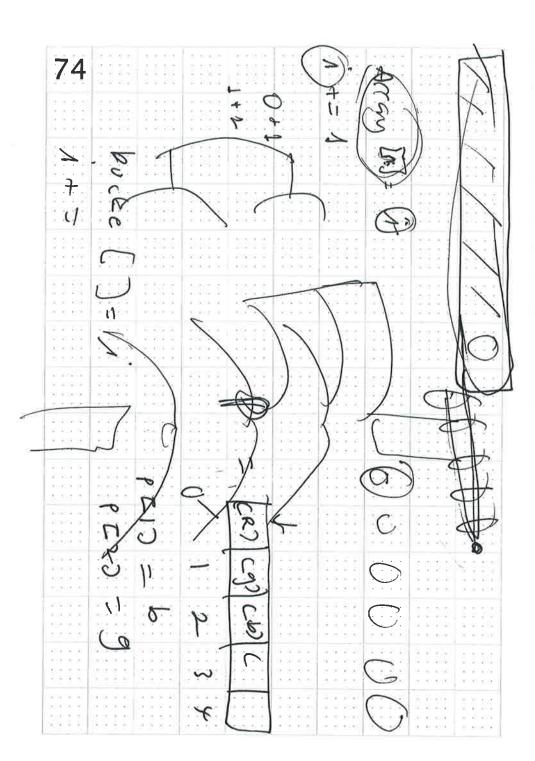
Initialization 3) My R10 Initialization variables, and modules/ser Define intialize controls

30 Detect Sensor butters Gripper Detect 6 Detect Pour button button detected turite servo to the demanded positions 32 Panel Detæded mat in Cap Information > Shows

Con	n te	<i>(</i> !		1335		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 5 E3C		33
nen a Nati	Sh	000		Wha	+	10	1 ;	(C	Λ.
2 KG X	20201 B	23 2 S 1 8 9 9 8 1 8 9 9 8					3 8 4 8 8 8 8 4 8 8 8 5 8 6 7 7 8	* * * * * * * * * * * * * * * * * * * *	36 30 30 30 30 30 30 30 30 30 30 30 30 30
Sto	ρ :	500 TO E	120 M M G. 140 M M G. 140 M M M 140 M M M						
2 575 0 2 525 9 5 525 2		top	\$	the	Po	vgc	an	***** ***** *****	0 8 8 8 9 8 8 8 2 2 2 5
9 89 8 9 89 8 8 89 8 8 83 8	11 1775 TO 40 1074 TO 40 1074 TO	#15 15 X #15 0 18 #15 0 18 #15 0 18	1005 10 M 1005 00 M 1005 00 M	10002 X Y		3 8 8 8 3 8 8 8 2 8 2 5			
Gr.	oee	r :	60 S S S 60 S S S 52 S S			3 3 5 5 5 5 5 5			
1 FOLK () A FOLK () Y FOLK ()	10 (ja 10 10 10 1 11 11 10 1 11 11 10 1 13	#301 64 (R) #301 04 (B) #301 04 (B) #301 04 (B)	64 6 8 68 8 8 51 8 8	KG # K KG # K	00 8 8 00 8 8 00 7 8 8				
2 2218 2 2308 8 8313 2 7375	80 100 18 80 100 15 80 100 15 80 100 15 80 100 15	#10004 P. #10004 P. #10004 P. #10004 P.	89 3 8 62 2 8 53 5 5	600 H H 600 H H 301 D A			3323		3 5 5 5 5 5 5 5 8 8 8 8 8
2 F2474 E 60000 N 60500 D 50500		ACCOUNT OF	59 X 8 60 V X 52 X D	509 H H 504 H H 504 H H 101 V H	60 X X 20 3 5 20 3 5 20 3 5	18 18 18 18 18 18 18 18 18 18 18 18 18 1			
2 43434 E 63607 E 53634 E 53634	X 80 X X 60 X Z \$3 Z	ment s MENT S	5000 0 5000 0 5000 0	E3 (4 K)	100 0 0 100 0 0 100 0 0	200 8 8 201 2 3 202 8 8			
8 -00+05 8 -00+05 2 -00505	6 50 X 5 50 X 2 50 X	0001 X	5001 S 1001 S 1001 S	500 00 00 200 00 00 400 00 00		104 0 0 104 0 0 104 0 0	22 2	1111 	1000 4423 9600
8 10 001 8 10 272 7 10 101	6 63 7 8 53 3 8 73 3 8 73 3	5 R 4 8 5 R 4 8 5 R 4 8	10000 6 10000 5 10000 6	#1840 A G		509 30 30 509 30 30 509 30 30	1541 2 5 1641 2 5 1641 2 2 1641 2 2	27.00 20.00 20.00	
8 8000 8 8000 2 7/2/2	# # 0 0 # # 1 0	0 00 X 2 1/4 2 2 1/4 2	6/1834 3 2/1835 3 2/1835 6	10 151 15 10 163 15 10 163 12	10 A T T T T T T T T T T T T T T T T T T	22 2 4 24 4 4 50 3 8	\$2.55 \$24.8.8 \$63.8.8	201 0 0 1404 × 9 1004 × 9	901 8 K
8 8 EC 5 4 EC 1 7 ES	8 600 2 707 2 708	5 101 5 5 101 5 8 100 8	5 10 0 5 10 0 6 10 0 6 10 0	**************************************	1020E 2 1020E 2 1020E 2	E/907 8	64 6 6 80 8 8 80 8 8	8 - 4 - 8 8 - 4 - 4 8 - 4 - 8 8 - 5 - 8	100 X X 100 X X 100 X X

Description -> little or survey of solution, boilet description. -) brief explanation of fea and concepts et Pagran over. links to video





RESISTOR COLOUR CODE

grey white		uses areen
5 6 change	dicen Dine I Park	3rd Band - multiplier
3 4	orange yellow	
6	0 1 2	black brown

1M0 1M2 1M5 2M2 2M7 3M3 3M9 4M7 5M6 6M8
yellow 100K 120K 150K 220K 270K 330K 330K 470K 680K 680K 820K
orange 10K 10K 12K 15K 22K 22K 27K 33K 33K 38K 47K 68K 68K 68K
Mn red NR 1K0 NR 1K2 NR 1K5 NR 1K5 NR 2K7 NR 3K8
100 100 152 27 27 27 27 27 47 47 47 66
black 10R 12R 15R 22R 22R 27R 33R 33R 33R 39R 47R 47R 68R 68R 68R
nd gold k 1R0 k 1R0 nn 1R5 nn 1R5 le 2R7 le 2R7 le 2R7 le 3R3 ge 3R3 te 3R9 te 5R6 le 5R6 le 5R6 le 6R8
st Band 2nd Band Digit 1 Digit 2 brown red brown green red red red purple orange orange orange white yellow purple green blue green
1st Band Digit 1 brown brown red red orange orange green green

+/- 10%	silver			
100	D/ C -//+	gold		
4 " Band - Loiete	+1-2%	red		
		1%	IWI	
		-/+	bro	

Keeping a Logbook

- Use this logbook to record everything you do on a project:
 - Annotated sketches & doodles
 - Customer needs & requirements
 - Class notes
 - Project objectives
 - Meeting notes
 - Action Items
 - Half-baked Ideas
 - d Maths calculations
 - Block diagrams
 - System diagrams
 - Sketched circuit schematics
 - Stripboard layouts (the dots are printed at the right specing)
 - Code snippets.
 - Design alternatives
 - Research findings
 - Sources of ideas (including URLs of websites).
 - Results of experiments
 - Evaluation of data/results.
 - Design reviews.
 - Decision criteria
 - Design process
 - Rationale for decisions.
 - Project reflections
 - Physically cut-and-pasted photos, scans etc.
- Write in the logbook as you go do not write things elsewhere with the intention of
- No loose bits of paper they'll fall out and you'll lose them.
- Record the date on each page. Start each day on a new page.
- Use ink, not pencil. Do not erase. Delete an entry by neatly crossing it out.
- Do not leave pages blank, expecting to fill them later. If you realize you have left something out, just write it on the next available page.
- Use the page numbers in the top corner as references. E.g. "the load on the motor. was calculated using equation 5 on page 57"
- Do not paste too many bits of paper into your logbook It'll get unmanageably
- Do not paste large sheets or multiple printed pages in your logbook. Save the Information in a file, give it a sensible name and store it in a sensible location. Refer to the name and location in your logbook. E.g. "datasheet for this part is stored in /myDocuments/finalproject/datastiest/555.pdf