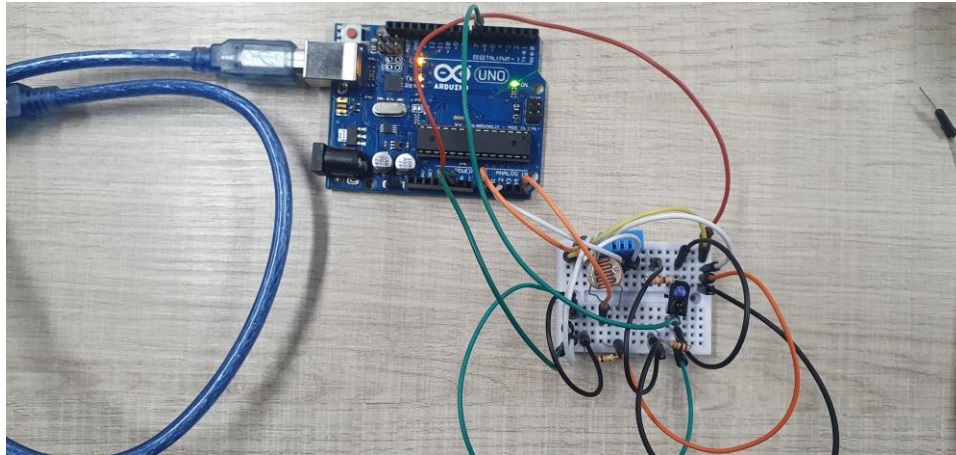


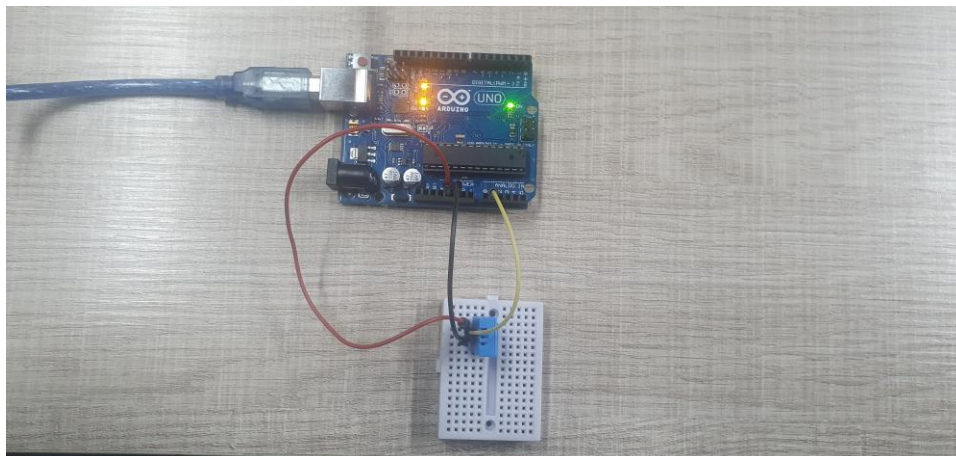
Entregável de Arquitetura Computacional

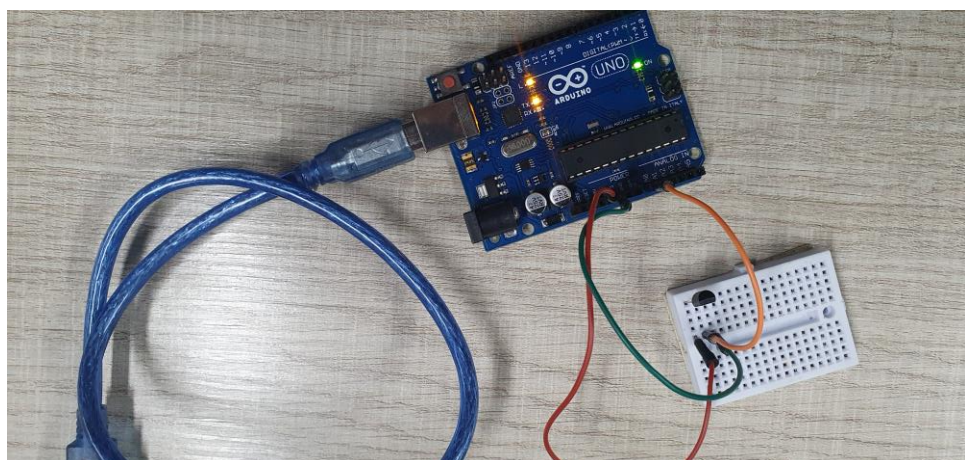
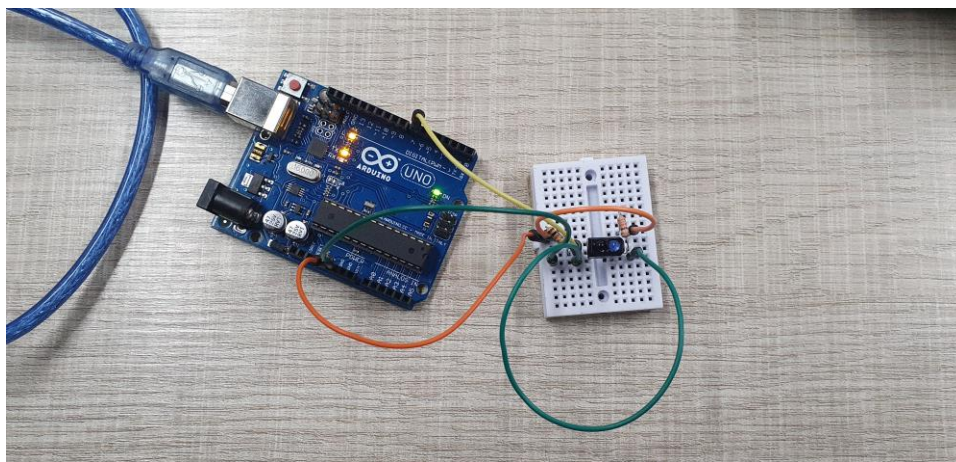
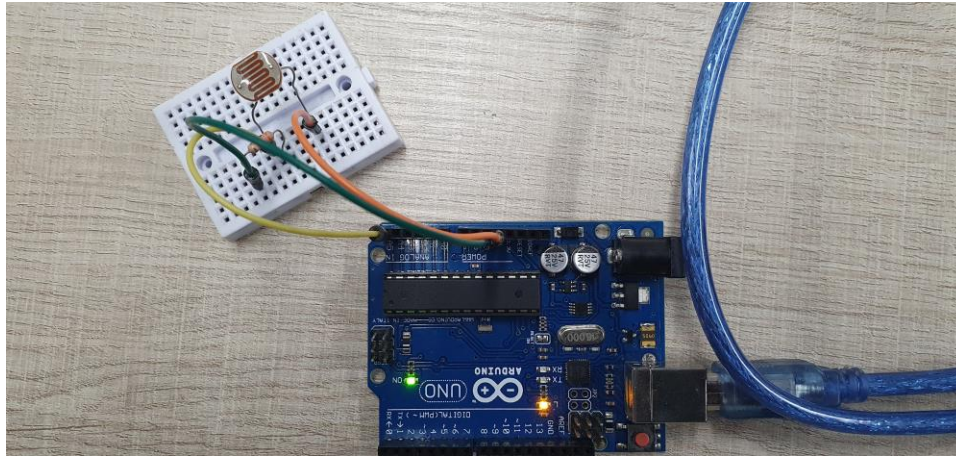
Integrantes: Isabela Saoria, William Kkobun, Diego Costa, Eduardo Damaceno, Wallace Ribeiro, Samuel Almeida, Matheus Martins. Grupo 10

Todos os sensores montados



Sensores montados individualmente

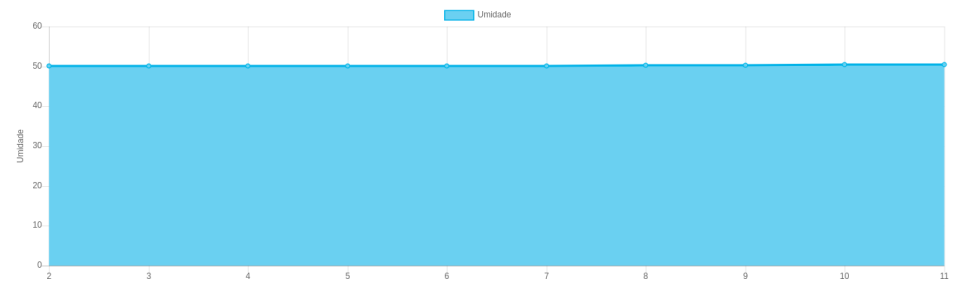




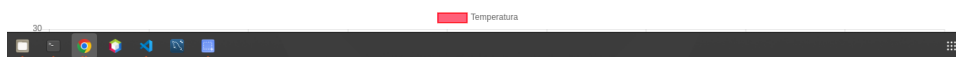
Gráficos Node Funcionando



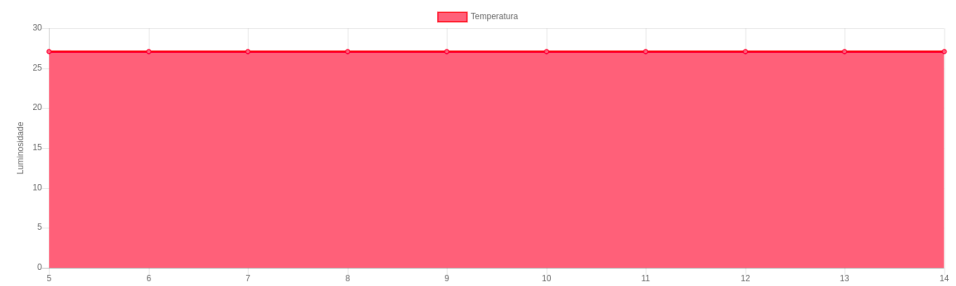
Sensor DHT 11 - Umidade



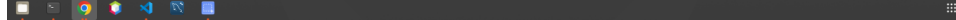
Sensor DHT 11 - Temperatura



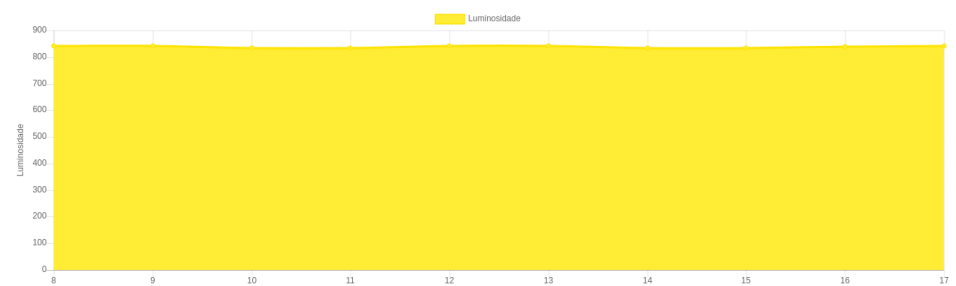
Sensor DHT 11 - Temperatura



Sensor Luminosidade

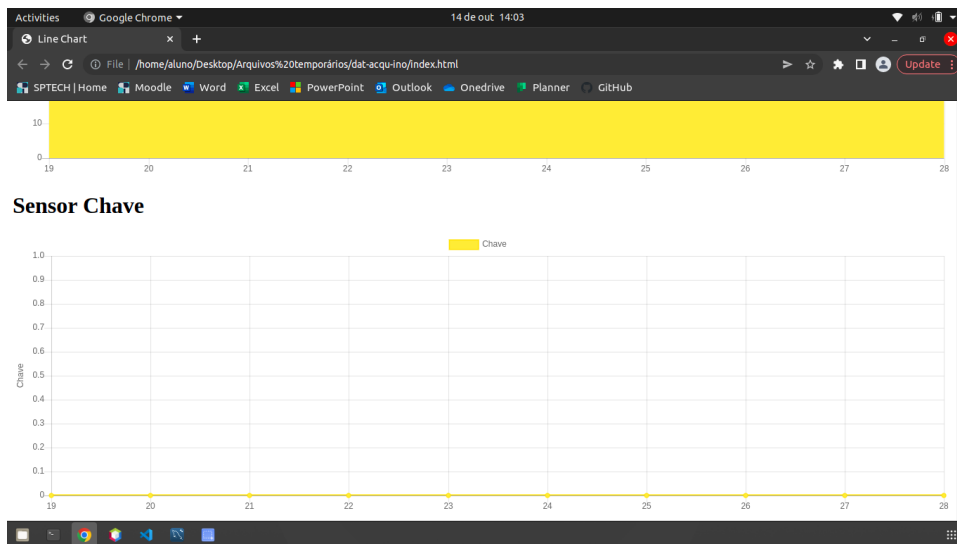
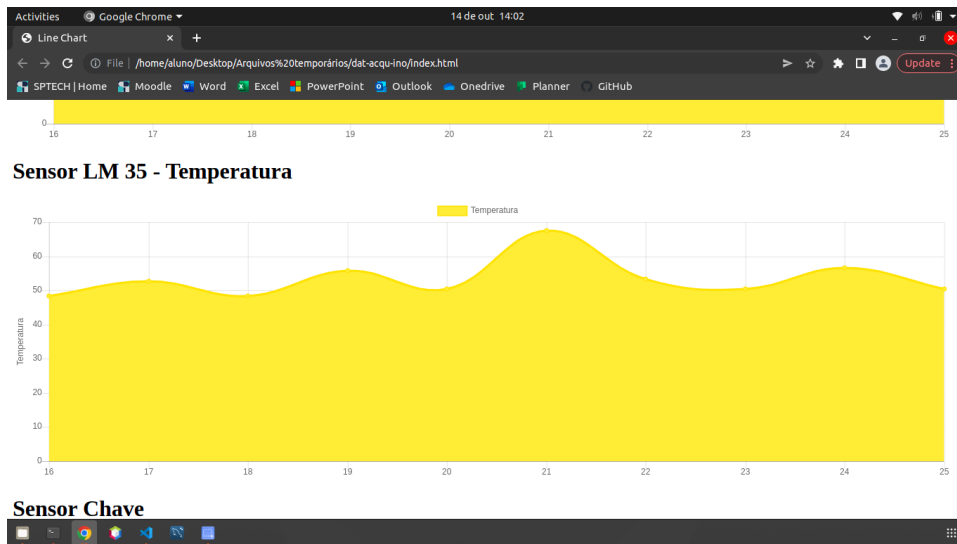


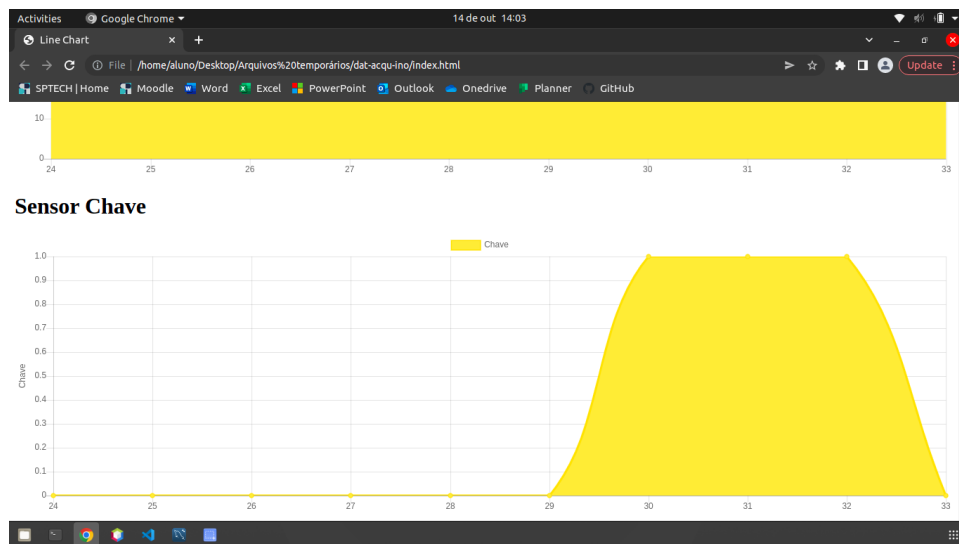
Sensor Luminosidade



Sensor LM 35 - Temperatura







Fórmula

Umidade	Umid $y = 0,667 \cdot X + 7,2$
Temperatura	Temp $y = 0,41 \cdot X + 7,2$

GRÁFICO 1			
IDCAPTAÇÃO	DATA	TEMPERATURA	UMIDADE
1	2:01 PM	28,10	47,80
2	2:02 PM	28,10	48,10
3	2:03 PM	28,10	49,10
4	2:04 PM	28,10	49,50
5	2:05 PM	28,20	50,10
6	2:06 PM	28,30	50,10
7	2:07 PM	28,40	55,20
8	2:08 PM	28,30	55,00
9	2:09 PM	28,30	54,80
10	2:11 PM	28,30	54,50
11	2:12 PM	28,30	54,10
12	2:13 PM	28,20	53,70
13	2:14 PM	28,20	53,40
14	2:15 PM	28,30	53,90
15	2:16 PM	28,60	54,10
16	2:17 PM	28,60	53,90
17	2:18 PM	28,70	54,30
18	2:19 PM	28,70	55,00
19	2:20 PM	28,70	54,80
20	2:21 PM	28,80	54,50
21	2:22 PM	28,80	54,30
22	2:23 PM	28,80	54,50
23	2:24 PM	28,80	55,30
24	2:25 PM	28,80	55,30
25	2:26 PM	28,80	54,90
26	2:27 PM	29,10	62,30
27	2:28 PM	29,60	62,20
28	2:29 PM	29,70	71,70
29	2:30 PM	29,70	72,80
30	2:31 PM	29,60	72,60
31	2:32 PM	29,40	72,20
32	2:33 PM	29,50	71,40
33	2:34 PM	29,40	70,40
34	2:35 PM	29,40	62,40
35	2:36 PM	29,30	62,00
36	2:37 PM	29,20	61,90
37	2:38 PM	29,10	60,80
38	2:39 PM	29,20	66,90
39	2:40 PM	29,20	66,00
40	2:41 PM	29,30	65,00
41	2:42 PM	29,40	64,10
42	2:43 PM	29,50	63,10
43	2:44 PM	29,50	62,20
44	2:45 PM	29,50	61,40
45	2:46 PM	29,50	60,70
46	2:47 PM	29,50	60,00
47	2:48 PM	29,40	52,40
48	2:49 PM	29,40	51,80
49	2:50 PM	29,40	51,40
50	2:51 PM	29,30	51,20
51	2:52 PM	29,30	51,00

GRÁFICO 2	
IDCAPTAÇÃO	DATA
1	2:01 PM
2	2:02 PM
3	2:03 PM
4	2:04 PM
5	2:05 PM
6	2:06 PM
7	2:07 PM
8	2:08 PM
9	2:09 PM
10	2:11 PM
11	2:12 PM
12	2:13 PM
13	2:14 PM
14	2:15 PM
15	2:16 PM
16	2:17 PM
17	2:18 PM
18	2:19 PM
19	2:20 PM
20	2:21 PM
21	2:22 PM
22	2:23 PM
23	2:24 PM
24	2:25 PM
25	2:26 PM
26	2:27 PM
27	2:28 PM
28	2:29 PM
29	2:30 PM
30	2:31 PM
31	2:32 PM
32	2:33 PM
33	2:34 PM
34	2:35 PM
35	2:36 PM
36	2:37 PM
37	2:38 PM
38	2:39 PM
39	2:40 PM
40	2:41 PM
41	2:42 PM
42	2:43 PM
43	2:44 PM
44	2:45 PM
45	2:46 PM
46	2:47 PM
47	2:48 PM
48	2:49 PM
49	2:50 PM
50	2:51 PM
51	2:52 PM

52	2:53 PM	29,20	51,10
53	2:54 PM	29,10	50,60
54	2:55 PM	29,20	50,30
55	2:56 PM	29,40	50,10
56	2:57 PM	29,60	56,70
57	2:58 PM	29,80	56,50
58	2:59 PM	30,10	56,20
59	3:00 PM	30,30	55,80
60	3:01 PM	30,50	55,70
61	3:02 PM	30,60	55,40
62	3:03 PM	30,80	55,00
63	3:04 PM	30,80	54,60
64	3:05 PM	30,70	54,30
65	3:06 PM	30,70	53,90
66	3:07 PM	31,00	52,80
67	3:08 PM	30,70	56,70
68	3:09 PM	30,50	55,90
69	3:10 PM	30,50	52,90
70	3:11 PM	30,10	56,30
71	3:12 PM	29,80	50,60
72	3:13 PM	29,60	56,00
73	3:14 PM	29,50	55,60
74	3:15 PM	29,50	55,30
75	3:16 PM	29,50	55,10
76	3:17 PM	29,50	54,70
77	3:18 PM	29,40	53,70
78	3:19 PM	29,30	53,90
79	3:20 PM	29,30	55,10
80	3:21 PM	29,30	55,10
81	3:22 PM	29,30	55,10
82	3:23 PM	29,30	54,90
83	3:24 PM	29,30	54,50
84	3:25 PM	29,30	54,10
85	3:26 PM	29,30	53,90
86	3:27 PM	29,20	53,80
87	3:28 PM	29,20	53,60
88	3:29 PM	29,20	53,50
89	3:30 PM	29,20	53,60
90	3:31 PM	29,30	53,40
91	3:32 PM	29,60	53,20
92	3:33 PM	30,10	53,10
93	3:34 PM	30,60	53,10
94	3:35 PM	31,60	53,00
95	3:36 PM	33,40	52,60
96	3:37 PM	35,00	52,40
97	3:38 PM	35,80	52,30
98	3:39 PM	36,10	52,30
99	3:40 PM	35,40	52,60
100	3:41 PM	34,60	52,80

52	2:53 PM
53	2:54 PM
54	2:55 PM
55	2:56 PM
56	2:57 PM
57	2:58 PM
58	2:59 PM
59	3:00 PM
60	3:01 PM
61	3:02 PM
62	3:03 PM
63	3:04 PM
64	3:05 PM
65	3:06 PM
66	3:07 PM
67	3:08 PM
68	3:09 PM
69	3:10 PM
70	3:11 PM
71	3:12 PM
72	3:13 PM
73	3:14 PM
74	3:15 PM
75	3:16 PM
76	3:17 PM
77	3:18 PM
78	3:19 PM
79	3:20 PM
80	3:21 PM
81	3:22 PM
82	3:23 PM
83	3:24 PM
84	3:25 PM
85	3:26 PM
86	3:27 PM
87	3:28 PM
88	3:29 PM
89	3:30 PM
90	3:31 PM
91	3:32 PM
92	3:33 PM
93	3:34 PM
94	3:35 PM
95	3:36 PM
96	3:37 PM
97	3:38 PM
98	3:39 PM
99	3:40 PM
100	3:41 PM

FICO 2	
TEMPERATURA	UMIDADE
27,70	46,41
27,70	46,70
27,70	47,65
27,70	48,03
27,79	48,60
27,89	48,60
27,98	53,44
27,89	53,25
27,89	53,06
27,89	52,78
27,89	52,40
27,79	52,02
27,79	51,73
27,89	52,21
28,17	52,40
28,17	52,21
28,27	52,59
28,27	53,25
28,27	53,06
28,36	52,78
28,36	52,59
28,36	52,78
28,36	53,54
28,36	53,54
28,36	53,16
28,65	60,19
29,12	60,09
29,22	69,12
29,22	70,16
29,12	69,97
28,93	69,59
29,03	68,83
28,93	67,88
28,93	60,28
28,84	59,90
28,74	59,81
28,65	58,76
28,74	64,56
28,74	63,70
28,84	62,75
28,93	61,90
29,03	60,95
29,03	60,09
29,03	59,33
29,03	58,67
29,03	58,00
28,93	50,78
28,93	50,21
28,93	49,83
28,84	49,64
28,84	49,45

GRÁFICO 3			
IDCAPTAÇÃO	DATA	TEMPERATURA	UMIDADE
1	2:01 PM	28,51	49,19
2	2:02 PM	28,51	49,51
3	2:03 PM	28,51	50,56
4	2:04 PM	28,51	50,98
5	2:05 PM	28,61	51,61
6	2:06 PM	28,72	51,61
7	2:07 PM	28,82	56,96
8	2:08 PM	28,72	56,75
9	2:09 PM	28,72	56,54
10	2:11 PM	28,72	56,23
11	2:12 PM	28,72	55,81
12	2:13 PM	28,61	55,39
13	2:14 PM	28,61	55,07
14	2:15 PM	28,72	55,60
15	2:16 PM	29,03	55,81
16	2:17 PM	29,03	55,60
17	2:18 PM	29,14	56,02
18	2:19 PM	29,14	56,75
19	2:20 PM	29,14	56,54
20	2:21 PM	29,24	56,23
21	2:22 PM	29,24	56,02
22	2:23 PM	29,24	56,23
23	2:24 PM	29,24	57,07
24	2:25 PM	29,24	57,07
25	2:26 PM	29,24	56,65
26	2:27 PM	29,56	64,42
27	2:28 PM	30,08	64,31
28	2:29 PM	30,19	74,29
29	2:30 PM	30,19	75,44
30	2:31 PM	30,08	75,23
31	2:32 PM	29,87	74,81
32	2:33 PM	29,98	73,97
33	2:34 PM	29,87	72,92
34	2:35 PM	29,87	64,52
35	2:36 PM	29,77	64,10
36	2:37 PM	29,66	64,00
37	2:38 PM	29,56	62,84
38	2:39 PM	29,66	69,25
39	2:40 PM	29,66	68,30
40	2:41 PM	29,77	67,25
41	2:42 PM	29,87	66,31
42	2:43 PM	29,98	65,26
43	2:44 PM	29,98	64,31
44	2:45 PM	29,98	63,47
45	2:46 PM	29,98	62,74
46	2:47 PM	29,98	62,00
47	2:48 PM	29,87	54,02
48	2:49 PM	29,87	53,39
49	2:50 PM	29,87	52,97
50	2:51 PM	29,77	52,76
51	2:52 PM	29,77	52,55

28,74	49,55
28,65	49,07
28,74	48,79
28,93	48,60
29,12	54,87
29,31	54,68
29,60	54,39
29,79	54,01
29,98	53,92
30,07	53,63
30,26	53,25
30,26	52,87
30,17	52,59
30,17	52,21
30,45	51,16
30,17	54,87
29,98	54,11
29,98	51,26
29,60	54,49
29,31	49,07
29,12	54,20
29,03	53,82
29,03	53,54
29,03	53,35
29,03	52,97
28,93	52,02
28,84	52,21
28,84	53,35
28,84	53,35
28,84	53,35
28,84	53,16
28,84	52,78
28,84	52,40
28,84	52,21
28,74	52,11
28,74	51,92
28,74	51,83
28,74	51,92
28,84	51,73
29,12	51,54
29,60	51,45
30,07	51,45
31,02	51,35
32,73	50,97
34,25	50,78
35,01	50,69
35,30	50,69
34,63	50,97
33,87	51,16

52	2:53 PM	29,66	52,66
53	2:54 PM	29,56	52,13
54	2:55 PM	29,66	51,82
55	2:56 PM	29,87	51,61
56	2:57 PM	30,08	58,54
57	2:58 PM	30,29	58,33
58	2:59 PM	30,61	58,01
59	3:00 PM	30,82	57,59
60	3:01 PM	31,03	57,49
61	3:02 PM	31,13	57,17
62	3:03 PM	31,34	56,75
63	3:04 PM	31,34	56,33
64	3:05 PM	31,24	56,02
65	3:06 PM	31,24	55,60
66	3:07 PM	31,55	54,44
67	3:08 PM	31,24	58,54
68	3:09 PM	31,03	57,70
69	3:10 PM	31,03	54,55
70	3:11 PM	30,61	58,12
71	3:12 PM	30,29	52,13
72	3:13 PM	30,08	57,80
73	3:14 PM	29,98	57,38
74	3:15 PM	29,98	57,07
75	3:16 PM	29,98	56,86
76	3:17 PM	29,98	56,44
77	3:18 PM	29,87	55,39
78	3:19 PM	29,77	55,60
79	3:20 PM	29,77	56,86
80	3:21 PM	29,77	56,86
81	3:22 PM	29,77	56,86
82	3:23 PM	29,77	56,65
83	3:24 PM	29,77	56,23
84	3:25 PM	29,77	55,81
85	3:26 PM	29,77	55,60
86	3:27 PM	29,66	55,49
87	3:28 PM	29,66	55,28
88	3:29 PM	29,66	55,18
89	3:30 PM	29,66	55,28
90	3:31 PM	29,77	55,07
91	3:32 PM	30,08	54,86
92	3:33 PM	30,61	54,76
93	3:34 PM	31,13	54,76
94	3:35 PM	32,18	54,65
95	3:36 PM	34,07	54,23
96	3:37 PM	35,75	54,02
97	3:38 PM	36,59	53,92
98	3:39 PM	36,91	53,92
99	3:40 PM	36,17	54,23
100	3:41 PM	35,33	54,44

GRÁFICO 4

IDCAPTAÇÃO	DATA	TEMPERATURA	UMIDADE
1	2:01 PM	31,41	53,08
2	2:02 PM	31,41	53,41
3	2:03 PM	31,41	54,51
4	2:04 PM	31,41	54,95
5	2:05 PM	31,52	55,61
6	2:06 PM	31,63	55,61
7	2:07 PM	31,74	61,22
8	2:08 PM	31,63	61
9	2:09 PM	31,63	60,78
10	2:11 PM	31,63	60,45
11	2:12 PM	31,63	60,01
12	2:13 PM	31,52	59,57
13	2:14 PM	31,52	59,24
14	2:15 PM	31,63	59,79
15	2:16 PM	31,96	60,01
16	2:17 PM	31,96	59,79
17	2:18 PM	32,07	60,23
18	2:19 PM	32,07	61
19	2:20 PM	32,07	60,78
20	2:21 PM	32,18	60,45
21	2:22 PM	32,18	60,23
22	2:23 PM	32,18	60,45
23	2:24 PM	32,18	61,33
24	2:25 PM	32,18	61,33
25	2:26 PM	32,18	60,89
26	2:27 PM	32,51	69,03
27	2:28 PM	33,06	68,92
28	2:29 PM	33,17	79,37
29	2:30 PM	33,17	80,58
30	2:31 PM	33,06	80,36
31	2:32 PM	32,84	79,92
32	2:33 PM	32,95	79,04
33	2:34 PM	32,84	77,94
34	2:35 PM	32,84	69,14
35	2:36 PM	32,73	68,7
36	2:37 PM	32,62	68,59
37	2:38 PM	32,51	67,38
38	2:39 PM	32,62	74,09
39	2:40 PM	32,62	73,1
40	2:41 PM	32,73	72
41	2:42 PM	32,84	71,01
42	2:43 PM	32,95	69,91
43	2:44 PM	32,95	68,92
44	2:45 PM	32,95	68,04
45	2:46 PM	32,95	67,27
46	2:47 PM	32,95	66,5
47	2:48 PM	32,84	58,14
48	2:49 PM	32,84	57,48
49	2:50 PM	32,84	57,04
50	2:51 PM	32,73	56,82
51	2:52 PM	32,73	56,6

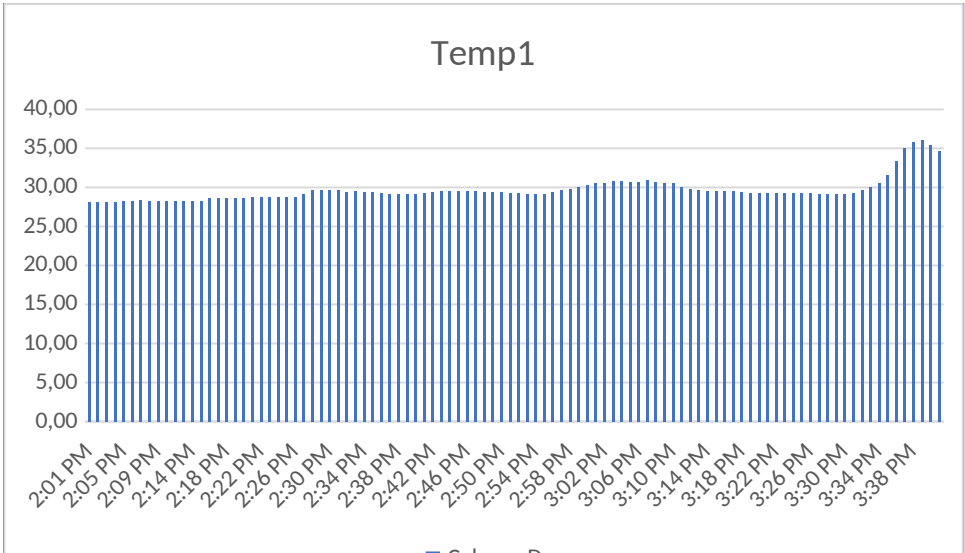
GRÁFICO 5

IDCAPTAÇÃO	DATA	TEMPERATURA
1	2:01 PM	24,79
2	2:02 PM	24,79
3	2:03 PM	24,79
4	2:04 PM	24,79
5	2:05 PM	24,88
6	2:06 PM	24,97
7	2:07 PM	25,06
8	2:08 PM	24,97
9	2:09 PM	24,97
10	2:11 PM	24,97
11	2:12 PM	24,97
12	2:13 PM	24,88
13	2:14 PM	24,88
14	2:15 PM	24,97
15	2:16 PM	25,24
16	2:17 PM	25,24
17	2:18 PM	25,33
18	2:19 PM	25,33
19	2:20 PM	25,33
20	2:21 PM	25,42
21	2:22 PM	25,42
22	2:23 PM	25,42
23	2:24 PM	25,42
24	2:25 PM	25,42
25	2:26 PM	25,42
26	2:27 PM	25,69
27	2:28 PM	26,14
28	2:29 PM	26,23
29	2:30 PM	26,23
30	2:31 PM	26,14
31	2:32 PM	25,96
32	2:33 PM	26,05
33	2:34 PM	25,96
34	2:35 PM	25,96
35	2:36 PM	25,87
36	2:37 PM	25,78
37	2:38 PM	25,69
38	2:39 PM	25,78
39	2:40 PM	25,78
40	2:41 PM	25,87
41	2:42 PM	25,96
42	2:43 PM	26,05
43	2:44 PM	26,05
44	2:45 PM	26,05
45	2:46 PM	26,05
46	2:47 PM	26,05
47	2:48 PM	25,96
48	2:49 PM	25,96
49	2:50 PM	25,96
50	2:51 PM	25,87
51	2:52 PM	25,87

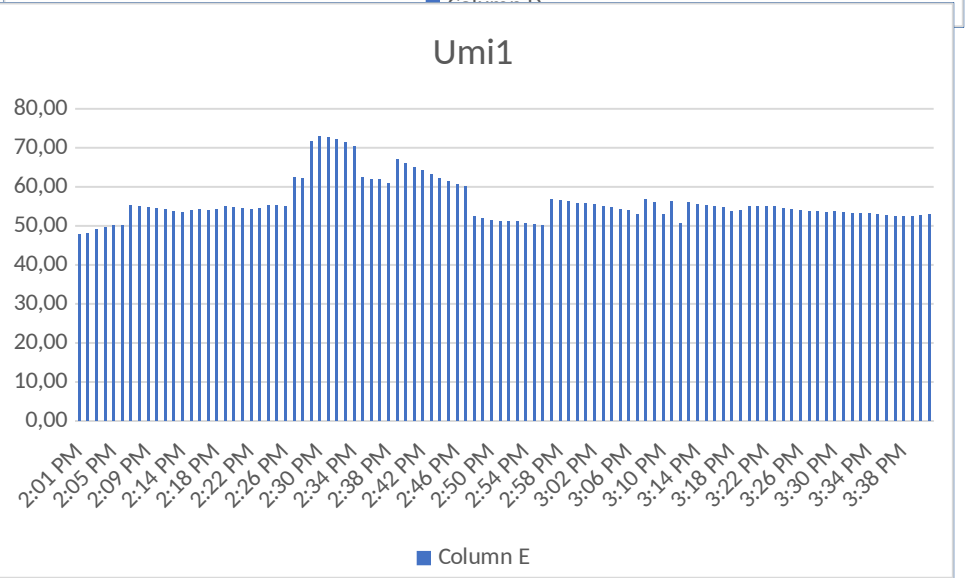
52	2:53 PM	32,62	56,71
53	2:54 PM	32,51	56,16
54	2:55 PM	32,62	55,83
55	2:56 PM	32,84	55,61
56	2:57 PM	33,06	62,87
57	2:58 PM	33,28	62,65
58	2:59 PM	33,61	62,32
59	3:00 PM	33,83	61,88
60	3:01 PM	34,05	61,77
61	3:02 PM	34,16	61,44
62	3:03 PM	34,38	61
63	3:04 PM	34,38	60,56
64	3:05 PM	34,27	60,23
65	3:06 PM	34,27	59,79
66	3:07 PM	34,6	58,58
67	3:08 PM	34,27	62,87
68	3:09 PM	34,05	61,99
69	3:10 PM	34,05	58,69
70	3:11 PM	33,61	62,43
71	3:12 PM	33,28	56,16
72	3:13 PM	33,06	62,1
73	3:14 PM	32,95	61,66
74	3:15 PM	32,95	61,33
75	3:16 PM	32,95	61,11
76	3:17 PM	32,95	60,67
77	3:18 PM	32,84	59,57
78	3:19 PM	32,73	59,79
79	3:20 PM	32,73	61,11
80	3:21 PM	32,73	61,11
81	3:22 PM	32,73	61,11
82	3:23 PM	32,73	60,89
83	3:24 PM	32,73	60,45
84	3:25 PM	32,73	60,01
85	3:26 PM	32,73	59,79
86	3:27 PM	32,62	59,68
87	3:28 PM	32,62	59,46
88	3:29 PM	32,62	59,35
89	3:30 PM	32,62	59,46
90	3:31 PM	32,73	59,24
91	3:32 PM	33,06	59,02
92	3:33 PM	33,61	58,91
93	3:34 PM	34,16	58,91
94	3:35 PM	35,26	58,8
95	3:36 PM	37,24	58,36
96	3:37 PM	39	58,14
97	3:38 PM	39,88	58,03
98	3:39 PM	40,21	58,03
99	3:40 PM	39,44	58,36
100	3:41 PM	38,56	58,58

52	2:53 PM	25,78
53	2:54 PM	25,69
54	2:55 PM	25,78
55	2:56 PM	25,96
56	2:57 PM	26,14
57	2:58 PM	26,32
58	2:59 PM	26,59
59	3:00 PM	26,77
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73	3:14 PM	26,05
74	3:15 PM	26,05
75	3:16 PM	26,05
76	3:17 PM	26,05
77	3:18 PM	25,96
78	3:19 PM	25,87
79	3:20 PM	25,87
80	3:21 PM	25,87
81	3:22 PM	25,87
82	3:23 PM	25,87
83	3:24 PM	25,87
84	3:25 PM	25,87
85	3:26 PM	25,87
86	3:27 PM	25,78
87	3:28 PM	25,78
88	3:29 PM	25,78
89	3:30 PM	25,78
90	3:31 PM	25,87
91	3:32 PM	26,14
92	3:33 PM	26,59
93	3:34 PM	27,04
94	3:35 PM	27,94
95	3:36 PM	29,56
96	3:37 PM	31
97	3:38 PM	31,72
98	3:39 PM	31,99
99	3:40 PM	31,36
100	3:41 PM	30,64

UMIDADE
42,52
42,79
43,69
44,05
44,59
44,59
49,18
49
48,82
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48,19
47,83
47,56
48,01
48,19
48,01
48,37
49
48,82
48,55
48,37
48,55
49,27
49,27
48,91
55,57
55,48
64,03
65,02
64,84
64,48
63,76
62,86
55,66
55,3
55,21
54,22
59,71
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54,13
53,5
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46,12
45,76
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45,4



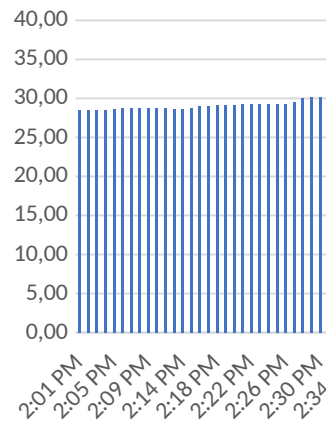
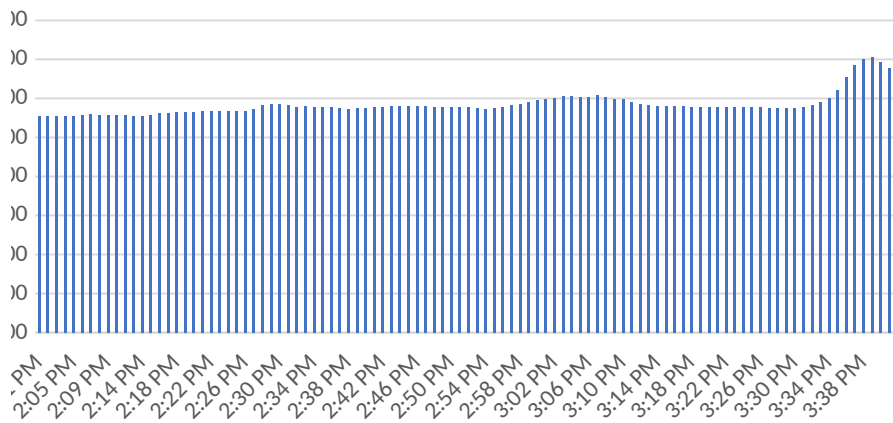
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0,0
2:01



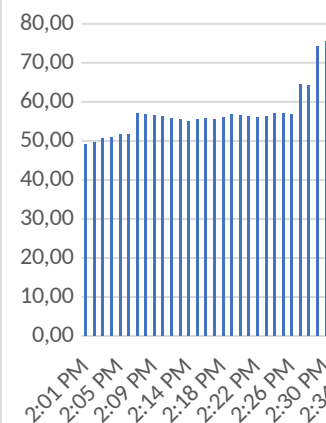
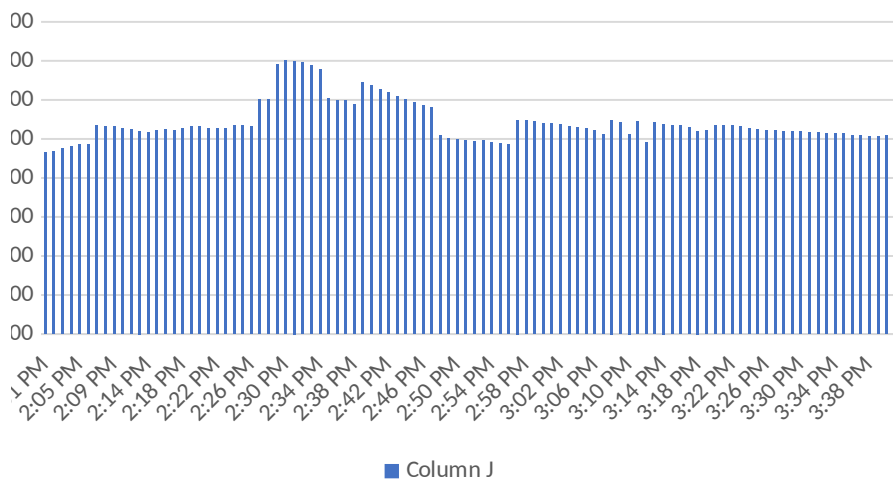
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10,0
0,0
2:01

45,49
45,04
44,77
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50,08
49,72
49,63
49,36
49
48,64
48,37
48,01
47,02
50,53
49,81
47,11
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49,54
49,27
49,09
48,73
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49,09
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49,09
48,91
48,55
48,19
48,01
47,92
47,74
47,65
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46,57
46,84
47,02

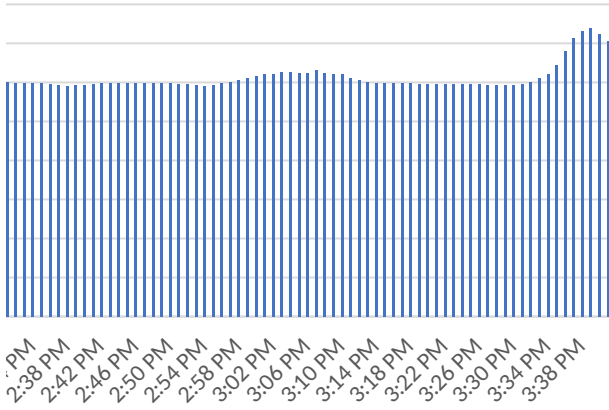
Temp 2



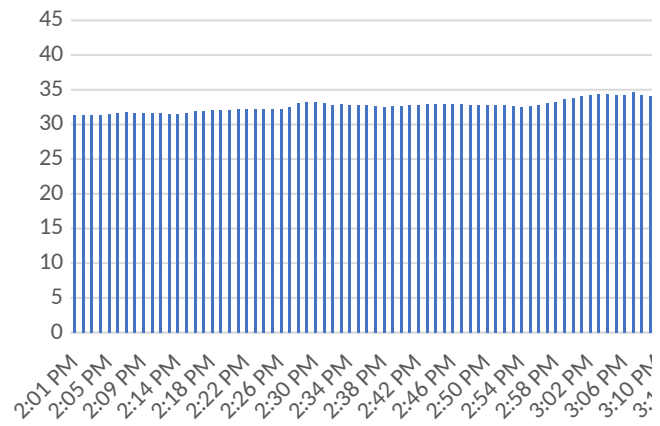
Umi 2



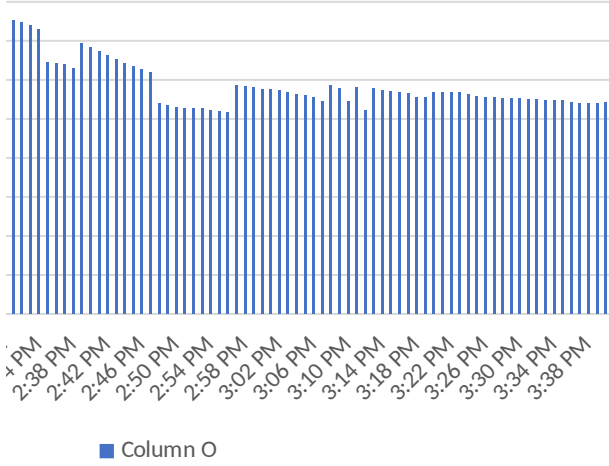
Temp 3



Temp 4

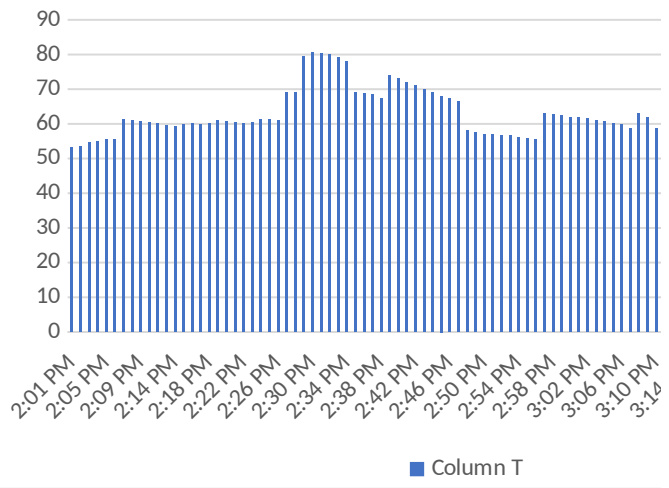


Umi 3

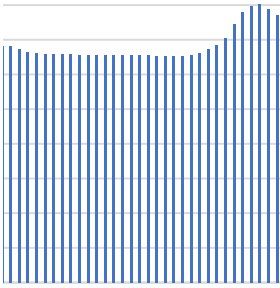


Column O

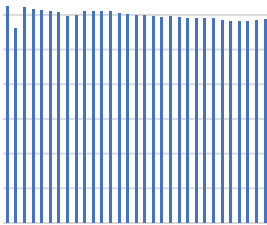
Umi 4



Column T

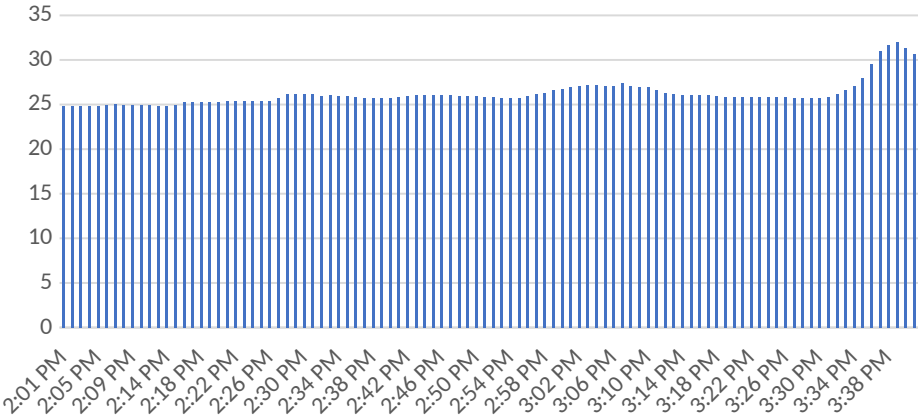


2:01 PM
2:05 PM
2:09 PM
2:14 PM
2:18 PM
2:22 PM
2:26 PM
2:30 PM
2:34 PM
2:38 PM
2:42 PM
2:46 PM
2:50 PM
2:54 PM
2:58 PM
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3:18 PM
3:22 PM
3:26 PM
3:30 PM
3:34 PM
3:38 PM

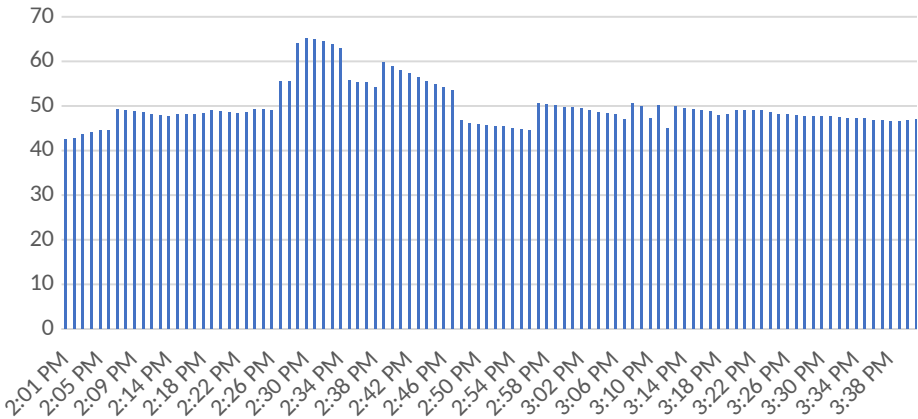


2:01 PM
2:05 PM
2:09 PM
2:14 PM
2:18 PM
2:22 PM
2:26 PM
2:30 PM
2:34 PM
2:38 PM
2:42 PM
2:46 PM
2:50 PM
2:54 PM
2:58 PM
3:02 PM
3:06 PM
3:10 PM
3:14 PM
3:18 PM
3:22 PM
3:26 PM
3:30 PM
3:34 PM
3:38 PM

Temp 5



Umi 5

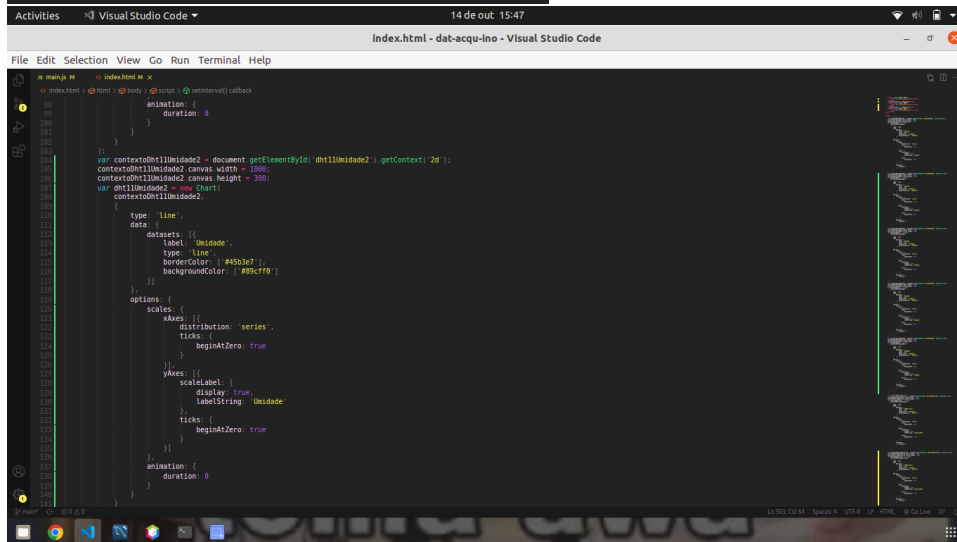


Column Y


```

</div>
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<section style="width:100%">
  <canvas id="dht11Umidade"></canvas>
</section>
<h1>Sensor DHT 11 - Umidade 2</h1>
<section style="width:100%">
  <canvas id="dht11Umidade2"></canvas>
</section>
<h1>Sensor DHT 11 - Umidade 3</h1>
<section style="width:100%">
  <canvas id="dht11Umidade3"></canvas>
</section>
<h1>Sensor DHT 11 - Umidade 4</h1>
<section style="width:100%">
  <canvas id="dht11Umidade4"></canvas>
</section>
<h1>Sensor DHT 11 - Umidade 5</h1>
<section style="width:100%">
  <canvas id="dht11Umidade5"></canvas>
</section>
<h1>Sensor DHT 11 - Temperatura</h1>
<section style="width: 100%;">
  <canvas id="dht11Temperatura"></canvas>
</section>
<h1>Sensor DHT 11 - Temperatura 2</h1>
<section style="width: 100%;">
  <canvas id="dht11Temperatura2"></canvas>
</section>
<h1>Sensor DHT 11 - Temperatura 3</h1>
<section style="width: 100%;">
  <canvas id="dht11Temperatura3"></canvas>
</section>
<h1>Sensor DHT 11 - Temperatura 4</h1>
<section style="width: 100%;">
  <canvas id="dht11Temperatura4"></canvas>
</section>
<h1>Sensor DHT 11 - Temperatura 5</h1>
<section style="width: 100%;">
  <canvas id="dht11Temperatura5"></canvas>
</section>
</div>

```




```
Activities Visual Studio Code 14 de out 15:49
main.js - dat-acqu-ino - Visual Studio Code

File Edit Selection View Go Run Terminal Help

main.js M X index.html M
1 // não altere!
2 const serialport = require('serialport');
3 const express = require('express');
4 const mysql = require('mysql2');
5 const sql = require('mysql');
6
7 // não altere!
8 const SERVIDOR_PORTA = 9000;
9 const SERVIDOR_PORTA = 1300;
10
11 // configure a linha abaixo caso queira que os dados capturados sejam inseridos no banco de dados.
12 // false -> não insere
13 // true -> insere
14 const HABILITAR_OPERACAO_INSERT = false;
15
16 // altere o valor da variável AMBIENTE para o valor desejado:
17 // API conectada ao banco de dados remoto, SQL Server -> 'producao'
18 // API conectada ao banco de dados local, MySQL, Workbench -> 'desenvolvimento'
19 const AMBIENTE = 'desenvolvimento';
20
21 const serial = async () => {
22   valoresDht11Temperatura;
23   valoresDht11Temperatura2;
24   valoresDht11Temperatura3;
25   valoresDht11Temperatura4;
26   valoresDht11Temperatura5;
27   valoresDht11Umidade;
28   valoresDht11Umidade2;
29   valoresDht11Umidade3;
30   valoresDht11Umidade4;
31   valoresDht11Umidade5;
32 }
33
34 let poolBancoDados = ''
35 if (AMBIENTE == 'desenvolvimento') {
36   poolBancoDados = mysql.createPool({
37     // altere!
38     // CREDENCIAIS DO BANCO LOCAL - MYSQL WORKBENCH
39     host: 'localhost',
40     user: 'usuario DO BANCO LOCAL',
41     password: 'SENHA DO BANCO LOCAL',
42     database: 'DATABASE LOCAL'
43   });
44 }
```

```
Activities Visual Studio Code 14 de out 15:49
main.js - dat-acqu-ino - Visual Studio Code

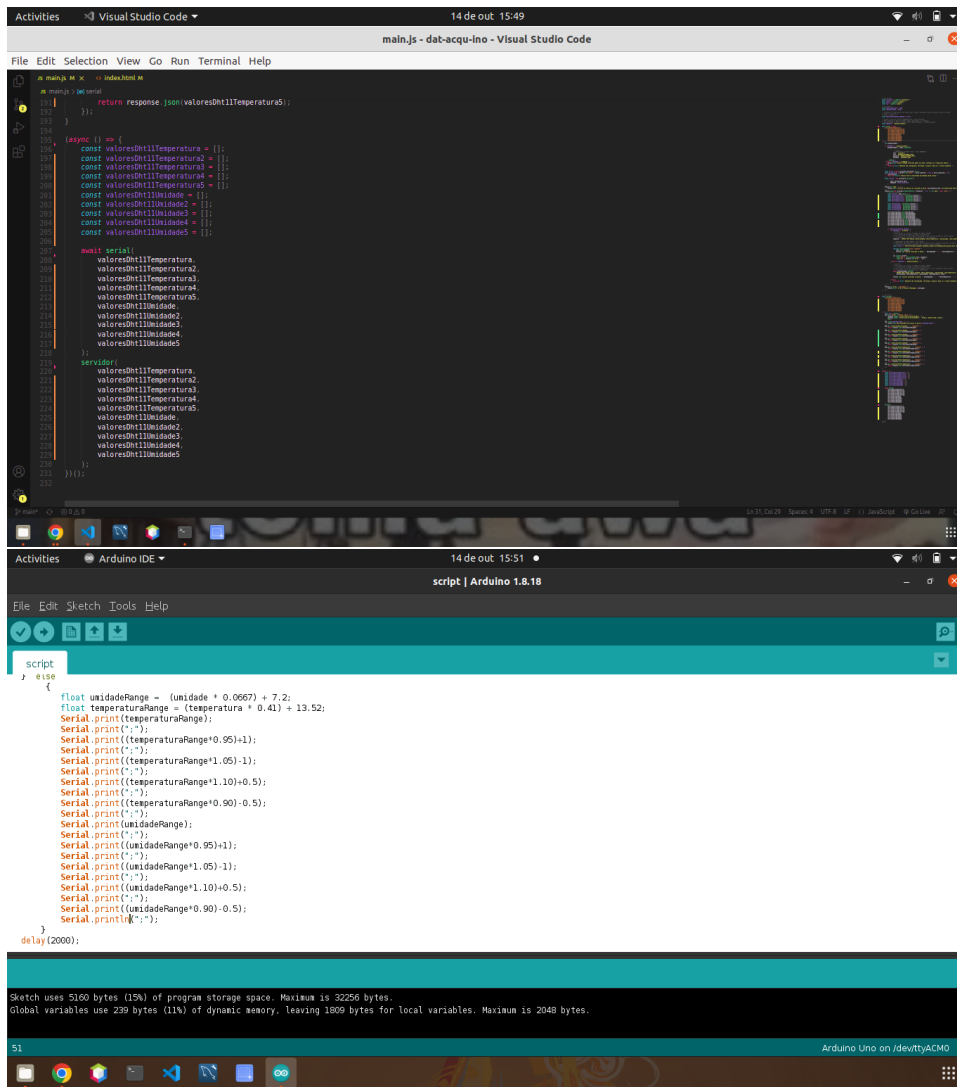
File Edit Selection View Go Run Terminal Help

main.js M X index.html M
64 arduino.on('open', () => {
65   console.log('A leitura do arduino foi iniciada na porta $(portArduino path) utilizando Baud Rate de $(SERIAL_BAUD_RATE)');
66 })
67
68 arduino.pipe(new serialport.ReadLineParser({ delimiter: '\r\n' })).on('data', async (data) => {
69   // console.log(data);
70   const valores = data.split(';');
71   const dht11Temperatura = parseFloat(valores[0]);
72   const dht11Temperatura2 = parseFloat(valores[1]);
73   const dht11Temperatura3 = parseFloat(valores[2]);
74   const dht11Temperatura4 = parseFloat(valores[3]);
75   const dht11Temperatura5 = parseFloat(valores[4]);
76
77   const dht11Umidade = parseFloat(valores[5]);
78   const dht11Umidade2 = parseFloat(valores[6]);
79   const dht11Umidade3 = parseFloat(valores[7]);
80   const dht11Umidade4 = parseFloat(valores[8]);
81   const dht11Umidade5 = parseFloat(valores[9]);
82
83   valoresDht11Umidade.push(dht11Umidade);
84   valoresDht11Umidade2.push(dht11Umidade2);
85   valoresDht11Umidade3.push(dht11Umidade3);
86   valoresDht11Umidade4.push(dht11Umidade4);
87   valoresDht11Umidade5.push(dht11Umidade5);
88
89   valoresDht11Temperatura.push(dht11Temperatura);
90   valoresDht11Temperatura2.push(dht11Temperatura2);
91   valoresDht11Temperatura3.push(dht11Temperatura3);
92   valoresDht11Temperatura4.push(dht11Temperatura4);
93   valoresDht11Temperatura5.push(dht11Temperatura5);
94
95   if (HABILITAR_OPERACAO_INSERT) {
96     if (AMBIENTE == 'producao') {
97       // altere!
98       // Para insert ira inserir os dados na tabela "medidas"
99       // -> altere nome da tabela e colunas se necessar!
100       // Para insert da inserir dados de R momento com! (isso no comando de insert abaixo)
101       // -> Importante! voce deve ter o aquario de id 1 cadastrado.
102       sqlquery `INSERT INTO medidas (dht11_umidade, dht11_temperatura, luminosidade, lnx5_temperatura, chave, momento, fx_aquario) VALUES (${dht11Umidade}, ${dht11Temperatura}, ${luminosidade}, ${dht11Umidade2}, ${dht11Temperatura2}, ${luminosidade}, ${dht11Umidade3}, ${dht11Temperatura3}, ${luminosidade}, ${dht11Umidade4}, ${dht11Temperatura4}, ${luminosidade}, ${dht11Umidade5}, ${dht11Temperatura5}, ${luminosidade})`;
103     }
104     // Importante! voce deve ter criado o aquario abaixo com os comandos presentes no arquivo
105     // "script-criacao-usuario-sqlserver.sql", presente neste diretorio.
106     // para maiores detalhes sobre o funcionamento do banco de dados, consulte o arquivo "README.md" no diretorio "Banco de Dados"
107   }
108 }
```

```
Activities Visual Studio Code 14 de out 15:49
main.js - dat-acqu-ino - Visual Studio Code

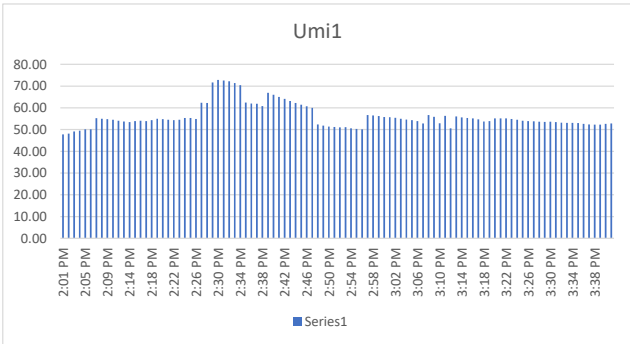
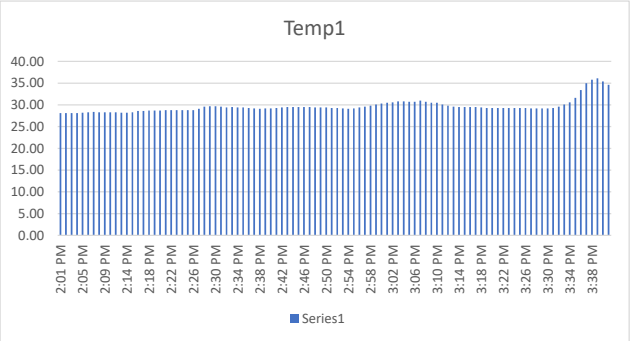
File Edit Selection View Go Run Terminal Help

main.js M X index.html M
129 // não altere!
130 const servidor = () => {
131   valoresDht11Temperatura;
132   valoresDht11Temperatura2;
133   valoresDht11Temperatura3;
134   valoresDht11Temperatura4;
135   valoresDht11Temperatura5;
136   valoresDht11Umidade;
137   valoresDht11Umidade2;
138   valoresDht11Umidade3;
139   valoresDht11Umidade4;
140   valoresDht11Umidade5;
141 }
142
143 const app = express();
144 app.use(express.json);
145 app.use(express.urlencoded({ extended: true }));
146 app.use(cors({ origin: '*', credentials: true }));
147 app.use(bodyParser.json({ type: 'application/*' }));
148 app.use(bodyParser.urlencoded({ type: 'application/*' }));
149
150 app.listen(SERVIDOR_PORTA, () => {
151   console.log('API executada com sucesso na porta $(SERVIDOR_PORTA)');
152 })
153
154 app.get('/sensores/dht11/umidade', (req, response) => {
155   return response.json(valoresDht11Umidade);
156 })
157 app.get('/sensores/dht11/umidade2', (req, response) => {
158   return response.json(valoresDht11Umidade2);
159 })
160 app.get('/sensores/dht11/umidade3', (req, response) => {
161   return response.json(valoresDht11Umidade3);
162 })
163 app.get('/sensores/dht11/umidade4', (req, response) => {
164   return response.json(valoresDht11Umidade4);
165 })
166 app.get('/sensores/dht11/umidade5', (req, response) => {
167   return response.json(valoresDht11Umidade5);
168 })
169 app.get('/sensores/dht11/temperatura', (req, response) => {
170   return response.json(valoresDht11Temperatura);
171 })
172 app.get('/sensores/dht11/temperatura2', (req, response) => {
173   return response.json(valoresDht11Temperatura2);
174 })
175 app.get('/sensores/dht11/temperatura3', (req, response) => {
176   return response.json(valoresDht11Temperatura3);
177 })
178 app.get('/sensores/dht11/temperatura4', (req, response) => {
179   return response.json(valoresDht11Temperatura4);
180 })
181 app.get('/sensores/dht11/temperatura5', (req, response) => {
182   return response.json(valoresDht11Temperatura5);
183 })
184 }
```



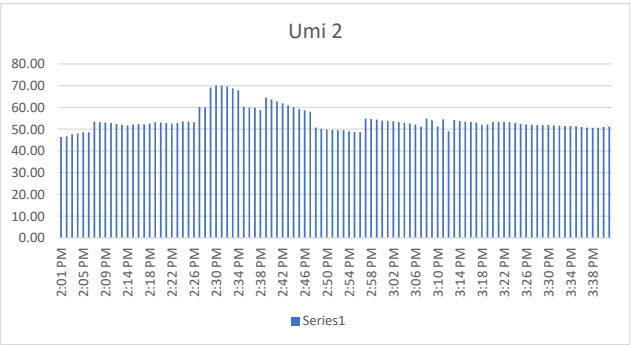
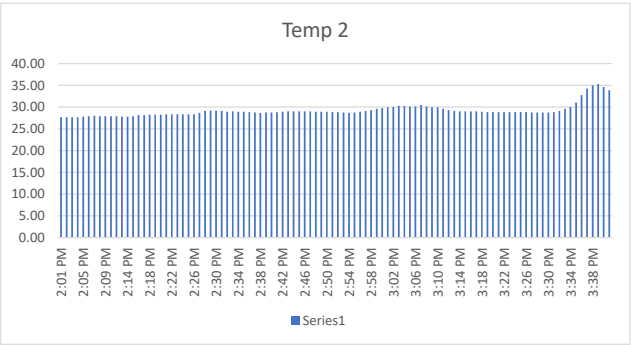
```
app.listen(SERVIDOR_PORTA, () => {
  console.log(`API executada com sucesso na porta ${SERVIDOR_PORTA}`);
});
app.get('/sensores/dht11/umidade', (_, response) => {
  return response.json(valoresDht11Umidade);
});
app.get('/sensores/dht11/umidade2', (_, response) => {
  return response.json(valoresDht11Umidade2);
});
app.get('/sensores/dht11/umidade3', (_, response) => {
  return response.json(valoresDht11Umidade3);
});
app.get('/sensores/dht11/umidade4', (_, response) => {
  return response.json(valoresDht11Umidade4);
});
app.get('/sensores/dht11/umidade5', (_, response) => {
  return response.json(valoresDht11Umidade5);
});
app.get('/sensores/dht11/temperatura', (_, response) => {
  return response.json(valoresDht11Temperatura);
});
app.get('/sensores/dht11/temperatura2', (_, response) => {
  return response.json(valoresDht11Temperatura2);
});
app.get('/sensores/dht11/temperatura3', (_, response) => {
  return response.json(valoresDht11Temperatura3);
});
app.get('/sensores/dht11/temperatura4', (_, response) => {
  return response.json(valoresDht11Temperatura4);
});
app.get('/sensores/dht11/temperatura5', (_, response) => {
  return response.json(valoresDht11Temperatura5);
});
}
```

GRÁFICO 1			
IDCAPTAÇÃO	DATA	TEMPERATURA	UMIDADE
1	2:01 PM	28.10	47.80
2	2:02 PM	28.10	48.10
3	2:03 PM	28.10	49.10
4	2:04 PM	28.10	49.50
5	2:05 PM	28.20	50.10
6	2:06 PM	28.30	50.10
7	2:07 PM	28.40	55.20
8	2:08 PM	28.30	55.00
9	2:09 PM	28.30	54.80
10	2:11 PM	28.30	54.50
11	2:12 PM	28.30	54.10
12	2:13 PM	28.20	53.70
13	2:14 PM	28.20	53.40
14	2:15 PM	28.30	53.90
15	2:16 PM	28.60	54.10
16	2:17 PM	28.60	53.90
17	2:18 PM	28.70	54.30
18	2:19 PM	28.70	55.00
19	2:20 PM	28.70	54.80
20	2:21 PM	28.80	54.50
21	2:22 PM	28.80	54.30
22	2:23 PM	28.80	54.50
23	2:24 PM	28.80	55.30
24	2:25 PM	28.80	55.30
25	2:26 PM	28.80	54.90
26	2:27 PM	29.10	62.30
27	2:28 PM	29.60	62.20
28	2:29 PM	29.70	71.70
29	2:30 PM	29.70	72.80
30	2:31 PM	29.60	72.60
31	2:32 PM	29.40	72.20
32	2:33 PM	29.50	71.40
33	2:34 PM	29.40	70.40
34	2:35 PM	29.40	62.40
35	2:36 PM	29.30	62.00
36	2:37 PM	29.20	61.90
37	2:38 PM	29.10	60.80
38	2:39 PM	29.20	66.90
39	2:40 PM	29.20	66.00
40	2:41 PM	29.30	65.00
41	2:42 PM	29.40	64.10
42	2:43 PM	29.50	63.10
43	2:44 PM	29.50	62.20
44	2:45 PM	29.50	61.40
45	2:46 PM	29.50	60.70
46	2:47 PM	29.50	60.00
47	2:48 PM	29.40	52.40
48	2:49 PM	29.40	51.80
49	2:50 PM	29.40	51.40
50	2:51 PM	29.30	51.20
51	2:52 PM	29.30	51.00
52	2:53 PM	29.20	51.10
53	2:54 PM	29.10	50.60
54	2:55 PM	29.20	50.30
55	2:56 PM	29.40	50.10
56	2:57 PM	29.60	56.70
57	2:58 PM	29.80	56.50
58	2:59 PM	30.10	56.20
59	3:00 PM	30.30	55.80
60	3:01 PM	30.50	55.70
61	3:02 PM	30.60	55.40
62	3:03 PM	30.80	55.00
63	3:04 PM	30.80	54.60
64	3:05 PM	30.70	54.30
65	3:06 PM	30.70	53.90
66	3:07 PM	31.00	52.80
67	3:08 PM	30.70	56.70
68	3:09 PM	30.50	55.90
69	3:10 PM	30.50	52.90
70	3:11 PM	30.10	56.30
71	3:12 PM	29.80	50.60
72	3:13 PM	29.60	56.00
73	3:14 PM	29.50	55.60
74	3:15 PM	29.50	55.30
75	3:16 PM	29.50	55.10
76	3:17 PM	29.50	54.70
77	3:18 PM	29.40	53.70
78	3:19 PM	29.30	53.90
79	3:20 PM	29.30	55.10
80	3:21 PM	29.30	55.10



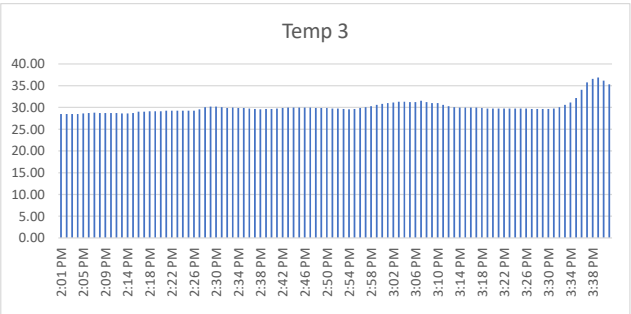
81	3:22 PM	29.30	55.10
82	3:23 PM	29.30	54.90
83	3:24 PM	29.30	54.50
84	3:25 PM	29.30	54.10
85	3:26 PM	29.30	53.90
86	3:27 PM	29.20	53.80
87	3:28 PM	29.20	53.60
88	3:29 PM	29.20	53.50
89	3:30 PM	29.20	53.60
90	3:31 PM	29.30	53.40
91	3:32 PM	29.60	53.20
92	3:33 PM	30.10	53.10
93	3:34 PM	30.60	53.10
94	3:35 PM	31.60	53.00
95	3:36 PM	33.40	52.60
96	3:37 PM	35.00	52.40
97	3:38 PM	35.80	52.30
98	3:39 PM	36.10	52.30
99	3:40 PM	35.40	52.60
100	3:41 PM	34.60	52.80

GRÁFICO 2			
IDCAPTAÇÃO	DATA	TEMPERATURA	UMIDADE
1	2:01 PM	27.70	46.41
2	2:02 PM	27.70	46.70
3	2:03 PM	27.70	47.65
4	2:04 PM	27.70	48.03
5	2:05 PM	27.79	48.60
6	2:06 PM	27.89	48.60
7	2:07 PM	27.98	53.44
8	2:08 PM	27.89	53.25
9	2:09 PM	27.89	53.06
10	2:11 PM	27.89	52.78
11	2:12 PM	27.89	52.40
12	2:13 PM	27.79	52.02
13	2:14 PM	27.79	51.73
14	2:15 PM	27.89	52.21
15	2:16 PM	28.17	52.40
16	2:17 PM	28.17	52.21
17	2:18 PM	28.27	52.59
18	2:19 PM	28.27	53.25
19	2:20 PM	28.27	53.06
20	2:21 PM	28.36	52.78
21	2:22 PM	28.36	52.59
22	2:23 PM	28.36	52.78
23	2:24 PM	28.36	53.54
24	2:25 PM	28.36	53.54
25	2:26 PM	28.36	53.16
26	2:27 PM	28.65	60.19
27	2:28 PM	29.12	60.09
28	2:29 PM	29.22	69.12
29	2:30 PM	29.22	70.16
30	2:31 PM	29.12	69.97
31	2:32 PM	28.93	69.59
32	2:33 PM	29.03	68.83
33	2:34 PM	28.93	67.88
34	2:35 PM	28.93	60.28
35	2:36 PM	28.84	59.90
36	2:37 PM	28.74	59.81
37	2:38 PM	28.65	58.76
38	2:39 PM	28.74	64.56
39	2:40 PM	28.74	63.70
40	2:41 PM	28.84	62.75
41	2:42 PM	28.93	61.90
42	2:43 PM	29.03	60.95
43	2:44 PM	29.03	60.09
44	2:45 PM	29.03	59.33
45	2:46 PM	29.03	58.67
46	2:47 PM	29.03	58.00
47	2:48 PM	28.93	50.78
48	2:49 PM	28.93	50.21
49	2:50 PM	28.93	49.83
50	2:51 PM	28.84	49.64
51	2:52 PM	28.84	49.45
52	2:53 PM	28.74	49.55
53	2:54 PM	28.65	49.07
54	2:55 PM	28.74	48.79
55	2:56 PM	28.93	48.60
56	2:57 PM	29.12	54.87
57	2:58 PM	29.31	54.68
58	2:59 PM	29.60	54.39
59	3:00 PM	29.79	54.01



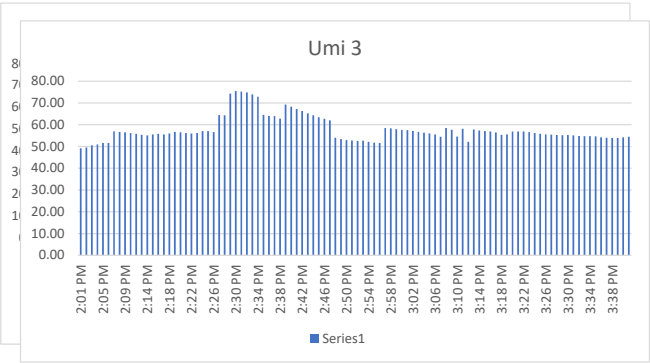
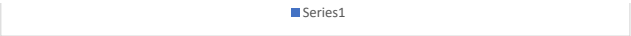
60	3:01 PM	29.98	53.92
61	3:02 PM	30.07	53.63
62	3:03 PM	30.26	53.25
63	3:04 PM	30.26	52.87
64	3:05 PM	30.17	52.59
65	3:06 PM	30.17	52.21
66	3:07 PM	30.45	51.16
67	3:08 PM	30.17	54.87
68	3:09 PM	29.98	54.11
69	3:10 PM	29.98	51.26
70	3:11 PM	29.60	54.49
71	3:12 PM	29.31	49.07
72	3:13 PM	29.12	54.20
73	3:14 PM	29.03	53.82
74	3:15 PM	29.03	53.54
75	3:16 PM	29.03	53.35
76	3:17 PM	29.03	52.97
77	3:18 PM	28.93	52.02
78	3:19 PM	28.84	52.21
79	3:20 PM	28.84	53.35
80	3:21 PM	28.84	53.35
81	3:22 PM	28.84	53.35
82	3:23 PM	28.84	53.16
83	3:24 PM	28.84	52.78
84	3:25 PM	28.84	52.40
85	3:26 PM	28.84	52.21
86	3:27 PM	28.74	52.11
87	3:28 PM	28.74	51.92
88	3:29 PM	28.74	51.83
89	3:30 PM	28.74	51.92
90	3:31 PM	28.84	51.73
91	3:32 PM	29.12	51.54
92	3:33 PM	29.60	51.45
93	3:34 PM	30.07	51.45
94	3:35 PM	31.02	51.35
95	3:36 PM	32.73	50.97
96	3:37 PM	34.25	50.78
97	3:38 PM	35.01	50.69
98	3:39 PM	35.30	50.69
99	3:40 PM	34.63	50.97
100	3:41 PM	33.87	51.16

GRÁFICO 3			
IDCAPTAÇÃO	DATA	TEMPERATURA	UMIDADE
1	2:01 PM	28.51	49.19
2	2:02 PM	28.51	49.51
3	2:03 PM	28.51	50.56
4	2:04 PM	28.51	50.98
5	2:05 PM	28.61	51.61
6	2:06 PM	28.72	51.61
7	2:07 PM	28.82	56.96
8	2:08 PM	28.72	56.75
9	2:09 PM	28.72	56.54
10	2:11 PM	28.72	56.23
11	2:12 PM	28.72	55.81
12	2:13 PM	28.61	55.39
13	2:14 PM	28.61	55.07
14	2:15 PM	28.72	55.60
15	2:16 PM	29.03	55.81
16	2:17 PM	29.03	55.60
17	2:18 PM	29.14	56.02
18	2:19 PM	29.14	56.75
19	2:20 PM	29.14	56.54
20	2:21 PM	29.24	56.23
21	2:22 PM	29.24	56.02
22	2:23 PM	29.24	56.23
23	2:24 PM	29.24	57.07
24	2:25 PM	29.24	57.07
25	2:26 PM	29.24	56.65
26	2:27 PM	29.56	64.42
27	2:28 PM	30.08	64.31
28	2:29 PM	30.19	74.29
29	2:30 PM	30.19	75.44
30	2:31 PM	30.08	75.23
31	2:32 PM	29.87	74.81
32	2:33 PM	29.98	73.97
33	2:34 PM	29.87	72.92
34	2:35 PM	29.87	64.52
35	2:36 PM	29.77	64.10
36	2:37 PM	29.66	64.00
37	2:38 PM	29.56	62.84
38	2:39 PM	29.66	69.25

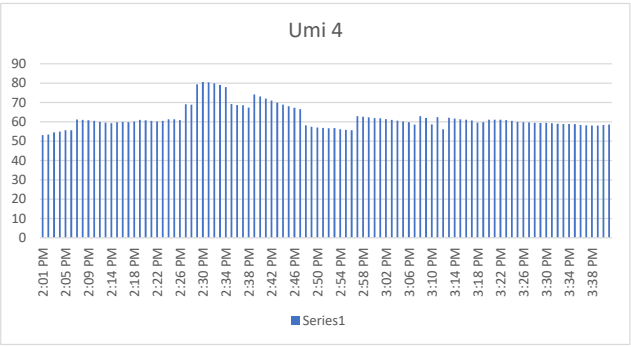
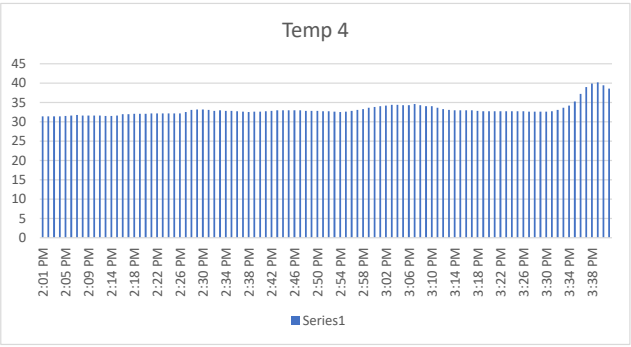


39	2:40 PM	29.66	68.30
40	2:41 PM	29.77	67.25
41	2:42 PM	29.87	66.31
42	2:43 PM	29.98	65.26
43	2:44 PM	29.98	64.31
44	2:45 PM	29.98	63.47
45	2:46 PM	29.98	62.74
46	2:47 PM	29.98	62.00
47	2:48 PM	29.87	54.02
48	2:49 PM	29.87	53.39
49	2:50 PM	29.87	52.97
50	2:51 PM	29.77	52.76
51	2:52 PM	29.77	52.55
52	2:53 PM	29.66	52.66
53	2:54 PM	29.56	52.13
54	2:55 PM	29.66	51.82
55	2:56 PM	29.87	51.61
56	2:57 PM	30.08	58.54
57	2:58 PM	30.29	58.33
58	2:59 PM	30.61	58.01
59	3:00 PM	30.82	57.59
60	3:01 PM	31.03	57.49
61	3:02 PM	31.13	57.17
62	3:03 PM	31.34	56.75
63	3:04 PM	31.34	56.33
64	3:05 PM	31.24	56.02
65	3:06 PM	31.24	55.60
66	3:07 PM	31.55	54.44
67	3:08 PM	31.24	58.54
68	3:09 PM	31.03	57.70
69	3:10 PM	31.03	54.55
70	3:11 PM	30.61	58.12
71	3:12 PM	30.29	52.13
72	3:13 PM	30.08	57.80
73	3:14 PM	29.98	57.38
74	3:15 PM	29.98	57.07
75	3:16 PM	29.98	56.86
76	3:17 PM	29.98	56.44
77	3:18 PM	29.87	55.39
78	3:19 PM	29.77	55.60
79	3:20 PM	29.77	56.86
80	3:21 PM	29.77	56.86
81	3:22 PM	29.77	56.86
82	3:23 PM	29.77	56.65
83	3:24 PM	29.77	56.23
84	3:25 PM	29.77	55.81
85	3:26 PM	29.77	55.60
86	3:27 PM	29.66	55.49
87	3:28 PM	29.66	55.28
88	3:29 PM	29.66	55.18
89	3:30 PM	29.66	55.28
90	3:31 PM	29.77	55.07
91	3:32 PM	30.08	54.86
92	3:33 PM	30.61	54.76
93	3:34 PM	31.13	54.76
94	3:35 PM	32.18	54.65
95	3:36 PM	34.07	54.23
96	3:37 PM	35.75	54.02
97	3:38 PM	36.59	53.92
98	3:39 PM	36.91	53.92
99	3:40 PM	36.17	54.23
100	3:41 PM	35.33	54.44

GRÁFICO 4			
IDCAPTAÇÃO	DATA	TEMPERATURA	UMIDADE
1	2:01 PM	31.41	53.08
2	2:02 PM	31.41	53.41
3	2:03 PM	31.41	54.51
4	2:04 PM	31.41	54.95
5	2:05 PM	31.52	55.61
6	2:06 PM	31.63	55.61
7	2:07 PM	31.74	61.22
8	2:08 PM	31.63	61
9	2:09 PM	31.63	60.78
10	2:11 PM	31.63	60.45
11	2:12 PM	31.63	60.01
12	2:13 PM	31.52	59.57
13	2:14 PM	31.52	59.24
14	2:15 PM	31.63	59.79
15	2:16 PM	31.96	60.01
16	2:17 PM	31.96	59.79
17	2:18 PM	32.07	60.23

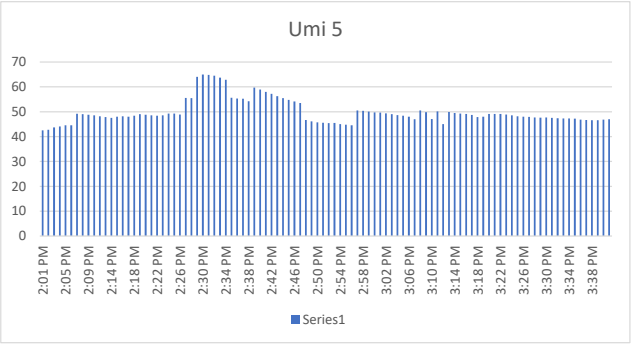
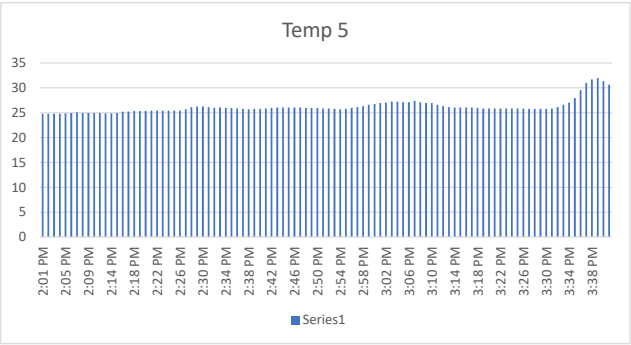


18	2:19 PM	32.07	61
19	2:20 PM	32.07	60.78
20	2:21 PM	32.18	60.45
21	2:22 PM	32.18	60.23
22	2:23 PM	32.18	60.45
23	2:24 PM	32.18	61.33
24	2:25 PM	32.18	61.33
25	2:26 PM	32.18	60.89
26	2:27 PM	32.51	69.03
27	2:28 PM	33.06	68.92
28	2:29 PM	33.17	79.37
29	2:30 PM	33.17	80.58
30	2:31 PM	33.06	80.36
31	2:32 PM	32.84	79.92
32	2:33 PM	32.95	79.04
33	2:34 PM	32.84	77.94
34	2:35 PM	32.84	69.14
35	2:36 PM	32.73	68.7
36	2:37 PM	32.62	68.59
37	2:38 PM	32.51	67.38
38	2:39 PM	32.62	74.09
39	2:40 PM	32.62	73.1
40	2:41 PM	32.73	72
41	2:42 PM	32.84	71.01
42	2:43 PM	32.95	69.91
43	2:44 PM	32.95	68.92
44	2:45 PM	32.95	68.04
45	2:46 PM	32.95	67.27
46	2:47 PM	32.95	66.5
47	2:48 PM	32.84	58.14
48	2:49 PM	32.84	57.48
49	2:50 PM	32.84	57.04
50	2:51 PM	32.73	56.82
51	2:52 PM	32.73	56.6
52	2:53 PM	32.62	56.71
53	2:54 PM	32.51	56.16
54	2:55 PM	32.62	55.83
55	2:56 PM	32.84	55.61
56	2:57 PM	33.06	62.87
57	2:58 PM	33.28	62.65
58	2:59 PM	33.61	62.32
59	3:00 PM	33.83	61.88
60	3:01 PM	34.05	61.77
61	3:02 PM	34.16	61.44
62	3:03 PM	34.38	61
63	3:04 PM	34.38	60.56
64	3:05 PM	34.27	60.23
65	3:06 PM	34.27	59.79
66	3:07 PM	34.6	58.58
67	3:08 PM	34.27	62.87
68	3:09 PM	34.05	61.99
69	3:10 PM	34.05	58.69
70	3:11 PM	33.61	62.43
71	3:12 PM	33.28	56.16
72	3:13 PM	33.06	62.1
73	3:14 PM	32.95	61.66
74	3:15 PM	32.95	61.33
75	3:16 PM	32.95	61.11
76	3:17 PM	32.95	60.67
77	3:18 PM	32.84	59.57
78	3:19 PM	32.73	59.79
79	3:20 PM	32.73	61.11
80	3:21 PM	32.73	61.11
81	3:22 PM	32.73	61.11
82	3:23 PM	32.73	60.89
83	3:24 PM	32.73	60.45
84	3:25 PM	32.73	60.01
85	3:26 PM	32.73	59.79
86	3:27 PM	32.62	59.68
87	3:28 PM	32.62	59.46
88	3:29 PM	32.62	59.35
89	3:30 PM	32.62	59.46
90	3:31 PM	32.73	59.24
91	3:32 PM	33.06	59.02
92	3:33 PM	33.61	58.91
93	3:34 PM	34.16	58.91
94	3:35 PM	35.26	58.8
95	3:36 PM	37.24	58.36
96	3:37 PM	39	58.14
97	3:38 PM	39.88	58.03
98	3:39 PM	40.21	58.03
99	3:40 PM	39.44	58.36



100	3:41 PM	38.56	58.58
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GRÁFICO 5			
IDCAPTAÇÃO	DATA	TEMPERATURA	UMIDADE
1	2:01 PM	24.79	42.52
2	2:02 PM	24.79	42.79
3	2:03 PM	24.79	43.69
4	2:04 PM	24.79	44.05
5	2:05 PM	24.88	44.59
6	2:06 PM	24.97	44.59
7	2:07 PM	25.06	49.18
8	2:08 PM	24.97	49
9	2:09 PM	24.97	48.82
10	2:11 PM	24.97	48.55
11	2:12 PM	24.97	48.19
12	2:13 PM	24.88	47.83
13	2:14 PM	24.88	47.56
14	2:15 PM	24.97	48.01
15	2:16 PM	25.24	48.19
16	2:17 PM	25.24	48.01
17	2:18 PM	25.33	48.37
18	2:19 PM	25.33	49
19	2:20 PM	25.33	48.82
20	2:21 PM	25.42	48.55
21	2:22 PM	25.42	48.37
22	2:23 PM	25.42	48.55
23	2:24 PM	25.42	49.27
24	2:25 PM	25.42	49.27
25	2:26 PM	25.42	48.91
26	2:27 PM	25.69	55.57
27	2:28 PM	26.14	55.48
28	2:29 PM	26.23	64.03
29	2:30 PM	26.23	65.02
30	2:31 PM	26.14	64.84
31	2:32 PM	25.96	64.48
32	2:33 PM	26.05	63.76
33	2:34 PM	25.96	62.86
34	2:35 PM	25.96	55.66
35	2:36 PM	25.87	55.3
36	2:37 PM	25.78	55.21
37	2:38 PM	25.69	54.22
38	2:39 PM	25.78	59.71
39	2:40 PM	25.78	58.9
40	2:41 PM	25.87	58
41	2:42 PM	25.96	57.19
42	2:43 PM	26.05	56.29
43	2:44 PM	26.05	55.48
44	2:45 PM	26.05	54.76
45	2:46 PM	26.05	54.13
46	2:47 PM	26.05	53.5
47	2:48 PM	25.96	46.66
48	2:49 PM	25.96	46.12
49	2:50 PM	25.96	45.76
50	2:51 PM	25.87	45.58
51	2:52 PM	25.87	45.4
52	2:53 PM	25.78	45.49
53	2:54 PM	25.69	45.04
54	2:55 PM	25.78	44.77
55	2:56 PM	25.96	44.59
56	2:57 PM	26.14	50.53
57	2:58 PM	26.32	50.35
58	2:59 PM	26.59	50.08
59	3:00 PM	26.77	49.72
60	3:01 PM	26.95	49.63
61	3:02 PM	27.04	49.36
62	3:03 PM	27.22	49
63	3:04 PM	27.22	48.64
64	3:05 PM	27.13	48.37
65	3:06 PM	27.13	48.01
66	3:07 PM	27.4	47.02
67	3:08 PM	27.13	50.53
68	3:09 PM	26.95	49.81
69	3:10 PM	26.95	47.11
70	3:11 PM	26.59	50.17
71	3:12 PM	26.32	45.04
72	3:13 PM	26.14	49.9
73	3:14 PM	26.05	49.54
74	3:15 PM	26.05	49.27
75	3:16 PM	26.05	49.09
76	3:17 PM	26.05	48.73
77	3:18 PM	25.96	47.83
78	3:19 PM	25.87	48.01



79	3:20 PM	25.87	49.09
80	3:21 PM	25.87	49.09
81	3:22 PM	25.87	49.09
82	3:23 PM	25.87	48.91
83	3:24 PM	25.87	48.55
84	3:25 PM	25.87	48.19
85	3:26 PM	25.87	48.01
86	3:27 PM	25.78	47.92
87	3:28 PM	25.78	47.74
88	3:29 PM	25.78	47.65
89	3:30 PM	25.78	47.74
90	3:31 PM	25.87	47.56
91	3:32 PM	26.14	47.38
92	3:33 PM	26.59	47.29
93	3:34 PM	27.04	47.29
94	3:35 PM	27.94	47.2
95	3:36 PM	29.56	46.84
96	3:37 PM	31	46.66
97	3:38 PM	31.72	46.57
98	3:39 PM	31.99	46.57
99	3:40 PM	31.36	46.84
100	3:41 PM	30.64	47.02