

PROBLEMA 8_7

Abbiamo già osservato nel problema 6.3, che l'ultimo dato dell'ultima colonna era fuori dalla distribuzione.
Solo per comodità usiamo solo 10 colonne, per avere una tabella 10 x 10.

j studente	1	2	3	4	5	6	7	8	9	10
Nome	Mi.	Lo.	Ma.	N.	Mar.	A.	Le.	Si.	E.	F.
i misura										
1	2.23	2.15	2.16	2.22	2.27	2.18	2.24	2.20	2.09	2.20
2	2.18	2.18	2.19	2.17	2.23	2.12	2.21	2.19	2.21	2.22
3	2.04	2.18	2.28	2.19	2.09	2.22	2.12	2.29	2.18	2.23
4	2.24	2.16	2.29	2.29	2.23	2.19	2.20	2.28	2.19	2.19
5	2.34	2.18	2.22	2.20	2.22	2.17	2.22	2.21	2.26	2.26
6	2.17	2.13	2.20	2.17	2.13	2.21	2.17	2.22	2.12	2.22
7	2.19	2.18	2.11	2.17	2.23	2.09	2.17	2.26	2.20	2.27
8	2.15	2.19	2.21	2.26	2.29	2.13	2.21	2.15	2.20	2.29
9	2.17	2.16	2.17	2.27	2.20	2.13	2.25	2.23	2.17	2.27
10	2.09	2.01	2.19	2.16	2.24	2.17	2.26	2.23	2.23	2.20

min valore	2.01
Max valore	2.34

$\bar{x}$ dei 100 dati 2.1969 s
 σ dei 100 dati 0.056168847 s

Usati per Gauss

2.197
0.056

$x = 2.20 \pm 0.06 \text{ s}$

	Usati per Gauss
$\bar{x}_j$	2.198
σ_j	0.029

$\sigma_{\bar{x}}$ 0.018 0.018 0.018 0.018 0.018 0.018 0.018 0.018 0.018 0.018 0.018 media dei 100 2.197 s
 ottenuta dalla migliore stima della deviazione standard ovviamente quella dei 100 valori dev.st. 100 dati= 0.056 s

	estremi della classe		Centrale	dei 100 dati			dei 10			$\bar{X}_j$
	x_{kmin}	x_{kmax}	x_k	n_k	F_k	$f_k = F_k / \Delta x$	n_k	F_k	$f_k = F_k / \Delta x$	
	[s]	[s]	[s]			[s ⁻¹]			[s ⁻¹]	
Prima classe che comprenda il minimo val.	2.005	2.015	2.01	1	0.01	1.00	0	0.00	0.00	
	2.015	2.025	2.02	0	0.00	0.00	0	0.00	0.00	
	2.025	2.035	2.03	0	0.00	0.00	0	0.00	0.00	
	2.035	2.045	2.04	1	0.01	1.00	0	0.00	0.00	
	2.045	2.055	2.05	0	0.00	0.00	0	0.00	0.00	
	2.055	2.065	2.06	0	0.00	0.00	0	0.00	0.00	
	2.065	2.075	2.07	0	0.00	0.00	0	0.00	0.00	
	2.075	2.085	2.08	0	0.00	0.00	0	0.00	0.00	
	2.085	2.095	2.09	4	0.04	4.00	0	0.00	0.00	
	2.095	2.105	2.10	0	0.00	0.00	0	0.00	0.00	
	2.105	2.115	2.11	1	0.01	1.00	0	0.00	0.00	
	2.115	2.125	2.12	3	0.03	3.00	0	0.00	0.00	
	2.125	2.135	2.13	4	0.04	4.00	0	0.00	0.00	
	2.135	2.145	2.14	0	0.00	0.00	0	0.00	0.00	
	2.145	2.155	2.15	3	0.03	3.00	1	0.10	10.00	
	2.155	2.165	2.16	4	0.04	4.00	1	0.10	10.00	
	2.165	2.175	2.17	11	0.11	11.00	0	0.00	0.00	
	2.175	2.185	2.18	7	0.07	7.00	1	0.10	10.00	
	2.185	2.195	2.19	9	0.09	9.00	1	0.10	10.00	
	2.195	2.205	2.20	9	0.09	9.00	1	0.10	10.00	
2.205	2.215	2.21	6	0.06	6.00	3	0.30	30.00		
2.215	2.225	2.22	8	0.08	8.00	0	0.00	0.00		
2.225	2.235	2.23	8	0.08	8.00	1	0.10	10.00		
2.235	2.245	2.24	3	0.03	3.00	1	0.10	10.00		
2.245	2.255	2.25	1	0.01	1.00	0	0.00	0.00		
2.255	2.265	2.26	5	0.05	5.00	0	0.00	0.00		
2.265	2.275	2.27	4	0.04	4.00	0	0.00	0.00		
2.275	2.285	2.28	2	0.02	2.00	0	0.00	0.00		
2.285	2.295	2.29	5	0.05	5.00	0	0.00	0.00		
2.295	2.305	2.30	0	0.00	0.00	0	0.00	0.00		
2.305	2.315	2.31	0	0.00	0.00	0	0.00	0.00		
2.315	2.325	2.32	0	0.00	0.00	0	0.00	0.00		
2.325	2.335	2.33	0	0.00	0.00	0	0.00	0.00		
Ultima classe fino a	2.335	2.345	2.34	1	0.01	1.00	0	0.00	0.00	
che comprenda il massimo	Σ			100.00	1.00	100.00	10.00	1.00	100.00	
				$\Sigma f_k \Delta x =$			$\Sigma f_k \Delta x =$			
				1			1			

z_{-100}

-3.34	0.03
-3.16	0.05
-2.98	0.08
-2.80	0.14
-2.63	0.23
-2.45	0.36
-2.27	0.54
-2.09	0.80
-1.91	1.15
-1.73	1.59
-1.55	2.13
-1.38	2.77
-1.20	3.48
-1.02	4.24
-0.84	5.01
-0.66	5.73
-0.48	6.34
-0.30	6.80
-0.13	7.07
0.05	7.11
0.23	6.93
0.41	6.55
0.59	5.99
0.77	5.31
0.95	4.55
1.12	3.78
1.30	3.05
1.48	2.38
1.66	1.79
1.84	1.31
2.02	0.93
2.20	0.64
2.37	0.42
2.55	0.27

z_{11}

-6.57	0.03
-6.22	0.05
-5.87	0.08
-5.53	0.14
-5.18	0.23
-4.83	0.36
-4.48	0.54
-4.13	0.80
-3.78	1.15
-3.43	1.59
-3.08	2.13
-2.73	2.77
-2.38	3.48
-2.03	4.24
-1.68	5.01
-1.33	5.73
-0.98	6.34
-0.63	6.80
-0.28	7.07
0.07	7.11
0.42	6.93
0.77	6.55
1.12	5.99
1.47	5.31
1.82	4.55
2.17	3.78
2.52	3.05
2.87	2.38
3.22	1.79
3.57	1.31
3.92	0.93
4.27	0.64
4.62	0.42
4.97	0.27

