Testing Island when of Normal is distribution when 6 ts known (given) :. The test we will oft to Z-test The concerned test statistic is Z= Vn(x-40) ~ N(0,1) under Ho: (u= 10) Given significance level 1s a. Depending on HI Ly His us no, then we reject to it Ly H,= M K, Mo, then we neglect to if Zobs <-Za the New Steel west- house in h: 14 the then we reject to it Zobs < Z1-a42 = Za42 [: 7 13

Symm7 Zobs > Zol/2 ive | Zobs | > Zo42 Case 2 Testing for mean for Normal distribution when 6 Isunknown let X follow a distribution N(4, 02) Justiere 62 is not known. let X1, X2, ..., Xn be niid random samples drawn from the distarbution of X Let $S^2 = \frac{1}{n-1} \sum_{i=1}^{n} (X_i - \overline{X})^2$ where $\widehat{X} = \frac{1}{n} (\sum_{i=1}^{n} X_i)$ let Ho: 40 ho & given significance level be a Consider the test-statistic $t = \frac{\ln(x-\mu_0)}{s}$ under the. Now we see $\left(\frac{\overline{X} - \mu_0}{\sigma \chi_n}\right) \sim Z(0,1)$ and sumy st = T (x + x)2 ~ x2 $\frac{1}{\sqrt{x^2}} = \frac{\sqrt{x^2}}{\sqrt{x^2}} = \frac{\sqrt{x^2}}$ 17 (x-Ao) ~ tn-1 Now depending by

I was much reject to it Lo His MF 16, we reject to F | tops | > ton ; 9/2 Case 3: Testing for variance of a notional population whose mean is known Let X follow normal distribution with mean of &

X~ N(No, 02) where 1572 To being tested. Consider n tid random samples X1, X2, ..., Xn drawn from the distribution of X Consider So = 1 5 (x-16)2

Then to detection Then under to, consider test - statistic, t= n32 ~ xn2. Depending on the Ha, at a-level of significance () If Hi: 0 > 60, we reject the f mind tobs of the tops of the sale of Co It in: 828 we agreet to it the top Son I was The Apri of so, we negled to if Abb & Xn 11-8/2. 1-n3 (a-y)n1 tas > 22, I'm defencing M

case 4: Testing for variance of a normal population when mean
I was an in the unknown, and great street street and
let X follow a normal distribution N(4,02) where is is
unknown & or is being tested for.
let n ild handon mortableid he w
let n 11d handom variables, be X1, X2,, Xn drawn
from the distribution of X.
let . Ha : 0 = 00
Now consider the test statistic $f = \frac{(n-1)S^2}{\sigma_0^2}$ under the
5°2 who
where $8^2 = \frac{1}{n-1} \sum_{i=1}^{n} (x_i - \bar{x}) &$
N= 1/5 x.
under Ho, to a tot,
Thus dependending on Ho, at a los,
4 His 0 < 50, we will reject the if
$t_{obs} < \chi^2_{n-1;1-\alpha}$
2f H,: 0>00, we will reject the if
tobs > χ_{n-1}^2 ; $q=$
If the of so, we will reject to if
and the state of t
tobs > Kn-1; 4/2
$\frac{\alpha_1}{\alpha_2}$
$\frac{(i_1,i_2)}{(i_1,i_2)} = \frac{(i_1,i_2)}{(i_1,i_2)} $

er kom na karanta erent egyete

Carolina Anna