

## Hypothesis Testing in R Cheat Sheet by nmnpandey via cheatography.com/170426/cs/35835/

Formulate the Hypothesis	
Null Hypothesis H0	hypothesis that is being tested (and trying to be disproved)
Alternate Hypothesis H1	represents the alternative value

Hypothesis Testing for Mean of 1-Sample					
one sample t-test ( $\mu$ 0 (given) is population mean; $\mu$ is computed sample mean)	H0 : μ = μ0, H1 : μ != μ0	t.test(sample_vector , mu=populatio- n_mean, alternative="two.sided")	Compare p-value with $\alpha$ to check if H0 is rejected or not; Check test-statistic z if H0 is true;		
test for proportion (p (given) is population mean; μ is computed sample mean)	H0 : μ = p, H1 : μ != p	<pre>prop.test(true_proportion, n_proportion, p=population_mean, alternative = "less")</pre>	Compare p-value with $\boldsymbol{a}$ to check if H0 is rejected or not; Check test-statistic z if H0 is true;		

Test for Normalit	ty		
Quantile Quantile Plot		qqPlot- (vector)	Check curve of qqplot
Shapiro-Wilks	H0: $x = N(\mu, \sigma)$ and H1: $x$	·	Check p-value obtained from the test is < 0.05 then we reject H0 and assume the
test	!= N(μ,σ)	o.test	data is not normally distributed.

## Comparing Variances

Fisher's F test H0: the variances are the same; H1: they are different var.test(vectorA, vectorB) Check p-value; Check ratio if H0 is true.



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