

# Day 8 Cheatsheet

## Statistics

### Functions

Library/Package	Piece of code	Example of usage	What it does
Base R	<code>cor(x, y)</code>	<code>cor(x, y)</code>	Calculate correlation of two vectors in R.
<code>corrplot</code>	<code>corrplot(cor_mat)</code>	<code>corrplot(cor_mat, type = "upper", order = "hclust")</code>	Create a correlation matrix plot.
Base R	<code>t.test(x, y)</code>	<code>t.test(x, y, alternative = "two.sided")</code>	Perform one and two sided t tests.
<code>broom</code>	<code>tidy(x)</code>	<code>tidy(t_test_result)</code>	Manipulates and tidies up wonky statistical R objects into nice data frames
Base R	<code>wilcox.test(x, y)</code>	<code>wilcox.test(x, y)</code>	Calculate non-parametric, Wilcoxon signed rank test, Wilcoxon rank sum test.
Base R	<code>shapiro.test()</code>	<code>shapiro.test(x)</code>	Test for normality with Shapiro-Wilk.
Base R	<code>ks.test()</code>	<code>ks.test(x)</code>	Test for normality with Kolmogorov-Smirnov.
Base R	<code>var.test(x, y)</code>	<code>var.test(x, y)</code>	Compare two variances with Fisher's F-test
Base R	<code>chisq.test(x, y)</code>	<code>chisq.test(x, y)</code>	Perform chi squared contingency tables and goodness of fit tests
Base R	<code>lm(x ~ y)</code>	<code>lm(x ~ y, data = df)</code>	Fit linear models based on a formula you provide.
Base R <code>summary(x)</code>	<code>summary(linear_model_result)</code>	Returns a summary of the values in object, including a linear model or other statistical test.	

Library/Package	Piece of code	Example of usage	What it does
Base R	<code>glm(x ~ y)</code>	<code>glm(x ~ y, data = df, family = binomial())</code>	Fit generalized linear models based on a formula you provide. Must specify the error distribution and link function using the <b>family</b> argument.

\* This format was adapted from the cheatsheet format from AlexsLemonade.