**DAILY ASSESSMENT FORMAT**

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| **Date:** | **20-07-2020** | **Name:** | **Rohan Shetty** |
| **Course:** | **Basic Statistics** | **USN:** | **4AL17EC079** |
| **Topic:** | **Week1** | **Semester & Section:** | **6th & ‘B’** |
| **GitHub Repository:** | **rohan-shetty-online-courses** |  |  |

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| **FORENOON SESSION DETAILS (9.00am to 1.00pm)** |
| Image of session |
| Z-scores and example  Sometimes researchers want to know if a specific observation is common or exceptional. To answer that question, they express a score in terms of the number of standard deviations it is removed from the mean. This number is what we call a z-score. If we recode original scores into z-scores, we say that we standardize a variable.  Measures of central tendency and dispersion  Besides summarizing data by means of tables and/or graphs, it can also be useful to describe the center of a distribution. We can do that by means of so-called measures of central tendency: the mode, median and mean.  Yet to adequately describe a distribution we need more information. We also need information about the variability or dispersion of the data. We need, in other words, measures of dispersion. Well-known measures of dispersion are the range, the interquartile range, the variance and the standard deviation. A graph that nicely presents the variability of a distribution is the box plot.  Sometimes researchers ask the question if a specific observation is common or  exceptional.  To answer that question, they express a score in terms of the number of standard  deviations it is removed from the mean  if a distribution is strongly skewed to the left, large negative z-scores are more common because there are more extreme values on the left side of the distribution. A rule that applies to any distribution regardless shape, is that 75% of the data must lie within a z-score of plus or minus 2. And 89% within a z-score of plus or minus 3. So in itself a z-score gives you, to a certain extent, information about how extreme an observation is. Z-scores are even more useful if you want to compare different distributions. Let's, for example, look at the question whether a body weight of 19.3 is common or not.  Interval and ratio variables are what we call quantitative variables because the categories are  represented by numerical values. Quantitative variables can also be distinguished in discrete and  continuous variables. A variable is discrete if its possible categories form a set of separate numbers  Discover Basic Data Types  Some of R's most basic types to get started are:   * Decimals values like 4.5 are called numerics. * Natural numbers like 4 are called integers. Integers are also numerics. * Boolean values (TRUE or FALSE) are called logical. * Text (or string) values are called characters.   Coercion: Taming your data  It is possible to transform your data from one type to the other. Next to the [class()](http://www.rdocumentation.org/packages/base/functions/class) function, you can use the as.\*() functions to enforce data to change types. For example,  var <- "3"  var\_num <- as.numeric(var)  converts the character string "3" in var to a numeric 3 and assigns it to var\_num. However, keep in my that it is not always possible to convert the types without losing information or getting errors.  Making a Bar Graph  We easily can make graphs to visualize our data. Let's visualize the number of manual and automatic transmissions in our car sample through a bar graph, using the function barplot(). The first argument of barplot() is a vector containing the heights of each bar. These heights correspond to the proportional frequencies of a desired measure in your data. You can obtain this information using the table() function.  We are going to make a bar graph of the am (transmission) variable of the mtcars dataset. In this case, the height of the bars can be the frequency of manual and automatic transmission cars. Therefore, here we are going to use table() and barplot() to make this plot.  Remember, you can select a specific variable using either $ or [,]. If you need to look at your data you can simply enter mtcars into your console, or if you just want to check the variables you can always enter str(mtcars) in your console |

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| AFTERNOON SESSION DETAILS |
| Image of session |
| Report – Report can be typed or hand written for up to two pages.  Welcome to Trailhead  Every journey starts with a single step—and so does every trail. You’ve already taken the first step of your learning journey by opening Trailhead.  Trailhead is the fun way to learn. Whether you’re an admin just starting out, a graduate fresh from college, a Salesforce user, or someone who loves to learn, there’s something on Trailhead for you.  How Does It Work?  In Trailhead, learning topics are organized into modules, which are broken up into units. To finish a unit, you earn points by completing a quiz or a challenge. A quiz checks your knowledge with multiple-choice questions, while a challenge tests your skills by getting your hands dirty in a Salesforce org. Once you’ve finished all of the units in a module, you get a shiny new badge for your profile.  Trails are groups of modules that provide guided learning paths suited to specific roles or needs. You can also blaze your own trail, and choose the modules that you’re most interested in without following a pre-existing trail. Projects and superbadges allow you to learn interactively by requiring you to implement a feature or solution in an org.  You just learned a lot of Trailhead terms in just a couple of paragraphs. If it seems like a lot to keep straight, don’t worry. Let us be your trail guide, and work through the rest of this module to learn the ins and outs of Trailhead.  What’s a Trail?  The essence of Trailhead is, you guessed it, trails. A trail is an ordered group of modules, projects, or both that provides a guided learning path to learning a new skill, product, or role. Because there are so many things you can learn on Trailhead, there are lots of trails—currently more than 100—covering a wide range of topics. |