Summarize the different types of hypothesis tests you have learnt so far. List down the type of test, assumptions, parameters to be tested etc.

**Reflection Journal 25/1/2018**

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| Test Type: One-sample confidence interval and z-test on µ  Parameters: Let 𝜇 denote the population mean  Assumptions:   * The sample must be reasonably random. * The data must be from a normal distribution or large sample (need to check n ≥ 30). * σ must be known. * The sample must be less than 10% of the population so that n σ is valid for the standard deviation of the sampling distribution of x. |

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| Test Type: One-sample confidence interval and t-test on µ  Parameters:   * It has a parameter known as the degree of freedom. We write *T* ~ *tn* – 1   Assumptions:   * In theory, the data should be drawn from a normal distribution or it is a large sample (need to check that n ≥ 30 ). * In practice, using the t-distribution is sufficiently robust if there is little skewness and no outliers in the data. Look at a graph of the data. * The data must be reasonably random. * The sample must be less than 10% of the population. |

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| Test Type: Two-sample confidence interval and t-test on µ1 - µ2  Parameter: 𝝁𝑿−𝝁𝒀  Assumptions:   * The two samples must be reasonably random and drawn independently or, if it is an experiment, the subjects were randomly assigned to treatments. * In theory, the data should be drawn from normal distributions or be large samples (check that n1+ n2 ≥ 30 ). * In practice, using the t-distribution is sufficiently robust provided that there is little skewness and no outliers in the data for each sample. Examine graphs of both sets of data. |

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| Test Type: Matched pairs confidence interval and t-test  Parameters: μ𝑫  Assumptions:   * The sample of paired differences must be reasonably random. * The paired differences d = x1 - x2 should be approximately normally distributed or be a large sample (need to check n ≥ 30 ). This procedure is robust if there are no outliers and little skewness in the paired differences. |

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| Test Type: One-sample confidence interval and z-test on population  Parameters: Population Proportion  Assumptions:   * The sample must be reasonably random * The sample must be less than 10% of the population * Sample size, 𝑛 is sufficiently large (usually 𝑛≥30) so that the sampling distribution of the sample proportion 𝑝 ̂ is approximately normal. |

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| Test Type: Two-sample confidence interval and z-test on p1 – p2  Assumptions:   * The two samples must be independently drawn and reasonably random or subjects were randomly assigned to two groups. |

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| Test Type: Two-sample confidence interval and F-test  Parameters: The numerator degrees of freedom and the denominator degrees of freedom.  Assumptions:   * Both populations are normally distributed * The two population distributions are independent |

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| Test Type: ANOVA Test  Parameters: The numerator degrees of freedom and the denominator degrees of freedom.  Assumptions:   * The populations are independent. * The populations follow normal distributions. * The populations have equal variances. |

Thank You and Have a Nice Day! :)