Author: Shaelynn Frederick, Date: February 9, 2022, Purpose: Assignment 2

Write two paragraphs each paragraph with a minimum 5-10 sentences on following 2 techniques of normalization.

RMA Normalization:   
RMA is a normalisation procedure for microarrays that background corrects, normalizes and summarizes the probe level information without the use of the information obtained in the MM probes. RMA is the Robust Multichip Average. It consists of three steps: a background adjustment, quantile normalization and finally summarization. RMA is a normalisation procedure for microarrays that background corrects, normalizes and summarizes the probe level information without the use of the information obtained in the MM probes. Assumes all chips have same background, distribution of values. Fit this additive model by iteratively reweighted least-squares or median polish. Mas5.0 Normalization: (now GCOS/GDAS) by Affymetrix Unlike RMA compares PM and MM probes MM\* is an adjusted MM that is never bigger than PM Signal = TukeyBiweight{log(PMj - MM\*j)} Tukey biweight is a robust average procedure with weights and outlier rejection Robust measure of center, like median or trimmed mean. g after pre-processing. Currently, the MAS5.0 presence-absence (MAS-P/A) method is the commonly used post-processing method to “call” the presence or absence of a detected gene signal on an Affymetrix chip (Affymetrix 2001). Since the MAS-P/A method requires both PM and MM probes to make the presence-absence (PA) call, PM-only normalization methods cannot be used with MAS5.0