# Digital Health Project 1—UMLS

# Find circles in the UMLS. A circle is defined as a one-directional (has only PAR or CHD relations) path that starts and ends with the same node, or CUI. You only need to find circles with at least 3 and less than 40 different nodes, and output the first 3 circles found using the following format for a circle from Node1 to Node2 …… to Noden to Node1: CUI1,CUI2,…,CUIn,CUI1

# Cycle 1: We started from the parent node CUI=C29394228 - “Bipolar affective disorder” and found 2 child nodes highlighted below:

# Graphical user interface Description automatically generated

# Cycle 2: We started from the parent node *Arteriosclerosis* (CUI=C0003850) to the child node Atherosclerosis (C0004153) since it is the cycle relationship with an opposing relationship.

# Graphical user interface, text, application Description automatically generated

# Cycle 3: We found a couple of self-loops cycles in the UMLS database. Below are 2 CUI’s for the same

# Graphical user interface, text, application, email Description automatically generated

# Graphical user interface, application Description automatically generated