Based on the data, every vessel type has a very sparse schedule regarding both discharge and loading. This is evident by the lots of zeros in the data. This can be possibly modeled by a **Compound Poisson** process if we identify the discharge and loading as arrivals of the process.

Taking into account the dead weight tonnage of each vessel, this can act as a constraint on what we should expect the vessel to do. For example, a vessel with a large dwt is expected to have a large transshipment on the port whereas a vessel of a small dwt will have a small one.

An approach could be to model each type of vessel arrivals as a stochastic Compound Poisson process and then make predictions based on this distribution.