**Import/Export Algorithm**

**Export Algorithm:**

1. Ask the user to provide file name.
2. Ask the use to specify export location.
3. Write all the repository data into excel book according to meta-model and save into the specified location with the provided file name.

**Import Algorithm:**

1. Ask the user to browse excel file that is to be imported.
2. Perform sanity check:
   1. To ensure that the structure of the specified import excel file is according to the meta-model.
   2. To ensure that the data in the excel file is according to the attributes types e.g., DATE is provided in the correct format, correct numeric value is provided for an integer or float etc.
3. Show sanity check log messages throughout in a dialog box in order to keep user informed about status of ongoing sanity check. If sanity check is successful then go to next step 4. Otherwise, at the end of the sanity check simply allow user to save log messages. Messages should clearly indicate which rows and which attributes failed sanity check.
4. Process each sheet one by one. Read data row by row. Each row represents an object.
   1. If the object is already in the repository then don’t create the object. Simply overwrite the primary attributes. In the case of relationship attributes, check if the relationship-object exists already.
      1. If, yes, then check if the relationship with the relationship-object exists already. If, yes, then do nothing, else create relationship between the two objects.
      2. Else, create the relationship-object and create relationship between the two objects.
   2. Else, create the object. Write primary attributes. Follow the same instructions as above for the relationship attributes.
5. Show import processing log messages throughout in the same dialog box (as sanity check) in order to keep user informed about status of ongoing import. Message should clearly indicate which objects imported successfully and which failed for what reason. Don’t break import process in the case of any failure. Complete the import process.
6. Once, successfully done, show the message to the user.
7. Ask the user whether he/she wants to save the import logs. Save the logs in a txt file accordingly.