**Assignment**

1. Write queries to achieve following
   * Find out the list of securities that have only closed position as of any date (exclude financing securities)
   * Find out number of portfolios in each fund belonging to Private debt funds
   * Check if a particular Issuer Group already exists in the system.
   * Find out the list of distinct securities owned in funds BDCA JV and BDCA of asset type Loan (Seniority as first lien or second lien) as of 12/30/2022
2. Write a query to find the count of active securities of each asset type in our system
   * The output should have following columns
     1. Asset Type
     2. Count of Securities
3. Write a stored procedure that implements the Price Rule Engine based on the following rules. (Only Consider Loan, Bond, RCF, Equity, CDS, CDX)
   * Logic: (Bid Price/ Ask Price/ Price Vendor)
     1. If Asset Class = Equity or Preferred Equity
        + If BidPriceBBG or AskPriceBBG is present then
          1. Populate Corresponding Bid Price and Ask Price
          2. Price Vendor = BBG
        + Else Populate NULL in all three columns
     2. If (Asset Class = Bond and Seniority is Senior ) or Asset Class = RCF, Loan
        + Check corresponding Markit Ask Price and Bid Price Columns if present
          1. Populate corresponding prices
          2. Price Vendor = Markit
        + Else if check corresponding BBG Prices if present
          1. Populate corresponding prices
          2. Price Vendor = BBG
        + Else populate NULL in all three columns
     3. If Asset Class = Bond and Seniority<> Senior then
        + First check BBG Pricing columns if present populate the three columns
        + Else check the MarkIT columns and if present populate the three columns
        + Else populate NULL
     4. If Asset Class = CDS then
        + Check if AskPriceISDA or BidPriceISDA is populated if true
          1. Populate the Ask Price and Bid Price
          2. Price Vendor = IVP
        + Else NULL
     5. If Asset Class = CDX then
        + Check if Bid Price or Ask Price is populated
          1. Populate Price Vendor = MarkIT
   * Output:
     1. As Of Date
     2. Security Code
     3. Issuer Group
     4. Asset Class
     5. Seniority
     6. Ask Price
     7. Bid Price
     8. Price Vendor
     9. Ask Price (MarkIt)
     10. Bid Price (MarkIT)
     11. Ask Price (BBG)
     12. Bid Price (BBG)
     13. Ask Price (ISDA)
     14. Bid Price (ISDA)
4. Write a query to find out the list of securities that have both closed as well as open position in same Index+ Funds on a given date (excluding financing securities)
   * The output should have following columns
     1. As Of Date
     2. Security Code
     3. Portfolio (Short Name)
     4. Fund
     5. Family
     6. Asset Type
     7. Instrument
     8. Seniority
5. Write a single query that finds the sum of market value, notional and MTD PnL Total by Portfolio of Short and Long Positions (Only consider Open Positions)
   * The output should have following columns
     1. As of Date
     2. Portfolio (Short Name)
     3. Position Type (Long or Short)
     4. Fund
     5. Notional Local
     6. Market Value
     7. MTD PnL
6. Write a function which returns the formatted email. The rule is specified in the excel attached. It should only take @UserName and @FullName as Input and return the complete email Id as output. If @UserName contains ivpuser or polarissupport then email id should be providence@ivp.in
7. Write a stored procedure to calculate the DTD and MTD PnL of position as of a given date.
   * DTD: Today’s ITD Total PnL – Yesterday’s ITD Total PnL
   * MTD: Today’s ITD Total PnL– Last Month Ends ITD Total PnL
   * Input:
     1. @AsOfDate
   * Output:
     1. As Of Date
     2. Security Code
     3. Portfolio (Short Name)
     4. Fund
     5. Position Type
     6. Asset Class
     7. Instrument
     8. Notional (Local)
     9. Market Value
     10. ITD Total PnL
     11. DTD Total PnL
     12. MTD Total PnL
8. Write a stored procedure which returns the trades done on that day in column format in Private debt funds.
   * Input:
     1. @As Of Date
     2. @Column (Default to Notional Local)
        + Notional Local
        + Net Money
        + Accrued Interest
   * Output:
     1. As Of Date
     2. Trade Id
     3. Transaction Type
     4. Security Code
     5. Issuer Group
     6. Asset Class
     7. Fund III
     8. Fund IV
     9. SMA C
     10. SMA NC
     11. SMA NC II
     12. SMA LK
     13. SMA TC
     14. SMA K
     15. SMA LM
     16. BSP SOF
     17. BDCA
9. Write a stored procedure that gets the prices of securities that have open positions as of the previous day in a particular portfolio group as of particular date.
   * Input:
     1. @AsOfDate
   * Output
     1. As Of Date
     2. Security Code
     3. Issuer Group
     4. Asset Class
     5. Instrument
     6. Seniority
     7. Bid Price
     8. Ask Price
     9. Price Vendor
10. Find list of Active Issuer Groups that do not have a single active Loan, Bond, Equity or CDS security issued.
    * The output should have following columns
      1. Issuer Group
      2. Symbol
11. Create a following documents (Excel)
    * All processes that run day in and out (With basic description/Sub Processes of process and timing)
    * All-important tables and fields.
    * All the hard rules and soft rules on the trade entry screen.
12. Write a script/Procedure to identify the duplicate time series attributes. Use dynamic SQL. The script should take the table name as argument and return the entries which are duplicates. (Consider only security level time series attributes)

Eg. @tableName =’ Polaris\_Security\_MaturityDate\_Timeseries’

| **SecurityId** | **Maturity Date** | **Start Date** | **End Date** | **Is Active** |
| --- | --- | --- | --- | --- |
| 1 | 1/1/2022 | 1/1/2008 | 1/1/2050 | 1 |
| 2 | 1/2/2023 | 1/1/2020 | 3/31/2020 | 1 |
| 2 | 1/3/2023 | 3/31/2020 | 1/1/2050 | 1 |

The highlighted ones are duplicate.

1. Declare another parameter called @CorrectEntries bit. If set to 1 then it will automatically correct the duplicate entries by update EndDate = StartDate of next entry -1.
2. Read up on Indexed view and check how you can convert following views to Indexed views
   * Vw\_Polaris\_SecurityDetails
   * Vw\_Polaris\_IssuerGroupDetails