**Livongo Health Mini Challenge**

**(Pavan Naik)**

**1. Query to extract members with derived fields/flags**

SELECT \*

m.user\_id AS 'User ID',

MIN(BGC1.bg\_timestamp) AS 'First Blood Glucose Checks',

COUNT(BGC2.bg\_vaue) AS 'Blood Glucose Checks in last 30 days',

AVG(BGC2.bg\_value) AS 'Mean Glucose value in last 30 days',

COUNT((BGC2.bg\_value)/DAY(EOMONTH(BGC2.bg\_timestamp))) 'Average Blood Glucose Checks last month',

COUNT(BGC3.bg\_value) 'Count of Hypoglycemic Readings in Lifetime',

COUNT(BGC4.bg\_value) 'Count of Hypoglycemic Readings in last 30 days',

FROM members m

LEFT JOIN blood\_glucose\_check BGC1 ON m.user\_id = BGC1.user\_id

LEFT JOIN blood\_glucose\_check BGC2 ON m.user\_id = BGC2.user\_id AND BGC4.bg\_timestamp BETWEEN (GET\_DATE() AND (GET\_DATE()-30))

LEFT JOIN blood\_glucose\_check BGC3 ON m.user\_id = BGC3.user\_id AND BGC3.bg\_value < 54

LEFT JOIN blood\_glucose\_check BGC4 ON m.user\_id = BGC4.user\_id AND BGC4.bg\_value < 54 AND BGC4.bg\_timestamp BETWEEN (GET\_DATE() AND (GET\_DATE()-30))

WHERE (DATEDIFF(YY, m.birth\_date, GET\_DATE()) >= 18) AND m.gender = 'M'

GROUP BY m.user\_id

**2. Queries to aggregate Net Promoter Score**

**Approach 1**

SELECT m.user\_id 'User ID', (SUM(nps.value-1) \* 100 / COUNT(nps.value)) as NPS, MONTH(nps.response\_date)

FROM members m

LEFT JOIN net\_promoter\_score nps ON m.user\_id = nps.user\_id

WHERE m.current\_status = 'enrolled' and (DATEDIFF(DD,nps.enrolled\_date, CURRENT\_TIMESTAMP))>365

GROUP BY MONTH(nps.response\_date), m.user\_id;

**Approach 2**

SELECT (SUM (CASE WHEN NPV >= 9 THEN 1. END)-SUM (CASE WHEN NPV <= 6 THEN 1. END))/SUM (1.) AS 'NPS', MONTH(nps.response\_date)

FROM

(SELECT (CASE WHEN ISNUMERIC(value) <> 1 THEN 0.

ELSE CAST(value AS FLOAT)

END) AS NPV , response\_date, user\_id

FROM net\_promoter\_score

)nps

GROUP BY nps.user\_id, nps.response\_time

**3. Data Analysis in Python (I have attached the jupyter notebook)**