**Task 1.2 (SQL-ORACLE)**

**Stage 2:**

1. Retrieve the liver patients with a direct bilirubin level higher than the average direct bilirubin level for all patients.

SELECT \*

FROM LIVER\_PATIENT\_DATASET

INNER JOIN STATUS ON LIVER\_PATIENT\_DATASET.ID = STATUS.ID

INNER JOIN CITYCODE\_STATECODE ON LIVER\_PATIENT\_DATASET.CITY\_CODE = CITYCODE\_STATECODE.CITY\_CODE

INNER JOIN STATE\_CODE ON LIVER\_PATIENT\_DATASET.STATE\_CODE = STATE\_CODE.STATE\_CODE

WHERE LIVER\_PATIENT\_DATASET.DIRECT\_BILIRUBIN > (

SELECT AVG(DIRECT\_BILIRUBIN)

FROM LIVER\_PATIENT\_DATASET

);

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1. Retrieve average alkaline phosphatase level for liver patients under the age of 50

SELECT AVG(ALKPHOS\_ALKALINE\_PHOSPHOTASE) FROM LIVER\_PATIENT\_DATASET WHERE AGE\_OF\_THE\_PATIENT < 50;

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1. Retrieve the average age and average total proteins for each gender

SELECT GENDER\_OF\_THE\_PATIENT, AVG(AGE\_OF\_THE\_PATIENT), AVG(TOTAL\_PROTIENS) FROM LIVER\_PATIENT\_DATASET GROUP BY GENDER\_OF\_THE\_PATIENT;

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1. Retrieve the gender with the highest total protein level

SELECT \* FROM (SELECT GENDER\_OF\_THE\_PATIENT, MAX(TOTAL\_PROTIENS) AS HIGHEST\_TOTAL\_PROTIENS FROM LIVER\_PATIENT\_DATASET

GROUP BY GENDER\_OF\_THE\_PATIENT ORDER BY HIGHEST\_TOTAL\_PROTIENS DESC)

WHERE ROWNUM = 1;

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1. Retrieve the gender with the highest average total protein level among liver patients below the age of 50

SELECT \* FROM

(SELECT GENDER\_OF\_THE\_PATIENT, AVG(TOTAL\_PROTIENS) AS ATP FROM LIVER\_PATIENT\_DATASET

WHERE AGE\_OF\_THE\_PATIENT<50

GROUP BY GENDER\_OF\_THE\_PATIENT

ORDER BY ATP DESC)

WHERE ROWNUM = 1;

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1. Retrieve the gender with the highest average total bilirubin and direct bilirubin levels

SELECT \* FROM(SELECT GENDER\_OF\_THE\_PATIENT, AVG(TOTAL\_BILIRUBIN), AVG(DIRECT\_BILIRUBIN)FROM LIVER\_PATIENT\_DATASET

GROUP BY GENDER\_OF\_THE\_PATIENT ORDER BY (AVG(TOTAL\_BILIRUBIN)+ AVG(DIRECT\_BILIRUBIN)) DESC)

WHERE ROWNUM = 1;

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