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# FORTIS HOSPITAL

## DIABETES PREDICTIVE ANALYSIS

(Using SQL)

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## OBJECTIVE

The dataset explores the Fortis Hospital diabetes dataset and aims to drive relevant insights. The data analyst has used SQL for extracting, manipulating and interpreting data to aid decision making

# Patient Id and ages of all Patients

SQL Query

01

```
SELECT Patient_id, AGE  
FROM fortis_diabetes.diabetes_prediction;
```

02

Output

	Patient_id	AGE
▶	PT101	31
	PT102	31
	PT103	31
	PT104	31
	PT105	35
	PT106	35
	PT107	35



# Female patients who are older than 30

SQL Query

```
SELECT EmployeeName  
FROM fortis_diabetes.diabetes_prediction  
WHERE gender = "Female"  
AND AGE > 30 ;
```

Output

	EmployeeName
▶	NATHANIEL FORD
	GARY JIMENEZ
	CHRISTOPHER CHONG
	DAVID SULLIVAN
	ALSON LEE
	DAVID KUSHNER
	JOANNE HAYES-WHITE
	ARTHUR KENNEY
	PATRICIA JACKSON

35 patients

# Average BMI of patients

SQL Query

```
SELECT round(AVG(bmi),2) AS Average_BMI  
FROM fortis_diabetes.diabetes_prediction ;
```

Output

	Average_BMI
▶	27.32



# Patients in descending order of blood glucose levels

SQL Query

Output

```
SELECT EmployeeName, blood_glucose_level  
FROM fortis_diabetes.diabetes_prediction  
ORDER BY blood_glucose_level DESC ;
```

	EmployeeName	blood_glucose_level
▶	Idalia R Farina	300
	Kanhu Wang	300
	Magdalena Ryor	300
	Warren Wong	300
	Adrian G Mendez	300
	Lenora G Banks	300
	Dante Rogayan	300
	Tinisha C Bishop	300
	Tualatai Auimatagi	300

# Number of patients with heart disease

SQL Query

```
SELECT count(Patient_id) AS No_of_Patients  
FROM fortis_diabetes.diabetes_prediction  
WHERE heart_disease = 1;
```

Output

	No_of_Patients
▶	3937



# Group Patients by smoking history & Count smokers and non-smokers

SQL Query

```
SELECT smoking_history, count(smoking_history) as Count_Smoking_History  
FROM fortis_diabetes.diabetes_prediction  
GROUP BY smoking_history ;
```

Output

	smoking_history	Count_Smoking_History
▶	never	35045
	No Info	35753
	current	9265
	former	9324
	ever	3997
	not current	6434

# Patient Id of patients who have a BMI greater than the average BMI

## SQL Query

```
01  
SELECT Patient_id , bmi  
FROM fortis_diabetes.diabetes_prediction  
WHERE bmi > ( SELECT avg(bmi) AS Average_BMI  
                FROM fortis_diabetes.diabetes_prediction )  
ORDER BY bmi;
```

## Output

	Patient_id	bmi
▶	PT93668	27.33
	PT97041	27.33
	PT98257	27.33
	PT64980	27.33
	PT69346	27.33
	PT73949	27.33



# Patient with Highest HbA1c level & Patient with the Lowest HbA1c level

SQL Query



```
(SELECT EmployeeName, HbA1c_level  
FROM fortis_diabetes.diabetes_prediction  
ORDER BY HbA1c_level DESC LIMIT 1)  
  
UNION ALL  
  
(SELECT EmployeeName, HbA1c_level  
FROM fortis_diabetes.diabetes_prediction  
ORDER BY HbA1c_level ASC LIMIT 1)  
  
ORDER BY HbA1c_level ;
```

Output

	EmployeeName	HbA1c_level
▶	ELLEN MOFFATT	3.5
	MICHAEL THOMPSON	9

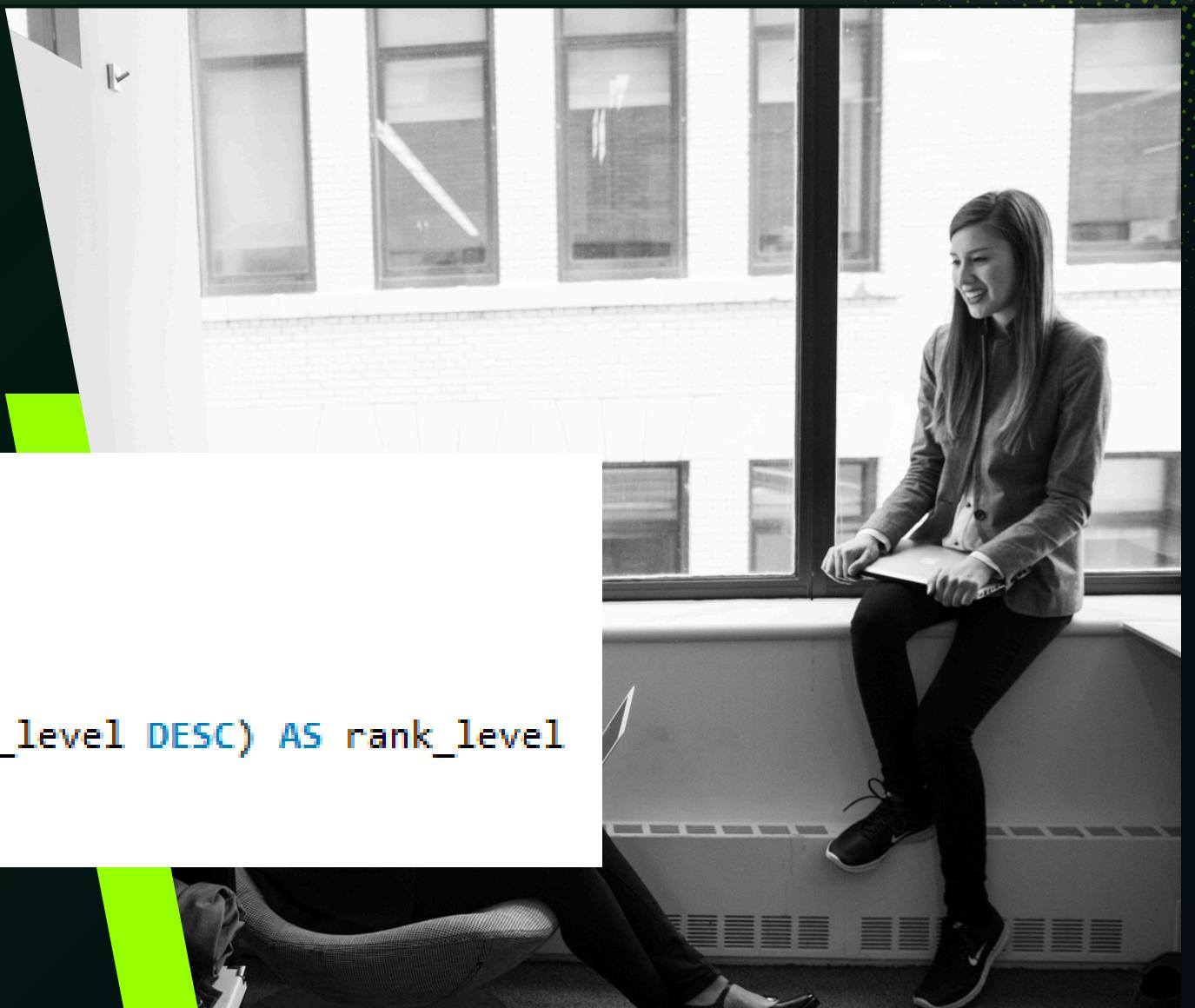
# Rank Patients by blood glucose level within each gender group

## SQL Query

```
SELECT  
EmployeeName,  
gender,  
blood_glucose_level,  
RANK() OVER (PARTITION BY gender ORDER BY blood_glucose_level DESC) AS rank_level  
FROM fortis_diabetes.diabetes_prediction;
```

## Output

	EmployeeName	gender	blood_glucose_level	rank_level
▶	Gilbert J Fragoso	Female	300	1
	Kanhu Wang	Female	300	1
	Warren Wong	Female	300	1
	Grace Gancayco	Female	300	1



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# THANK YOU

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