# DIABETES PREDICTION

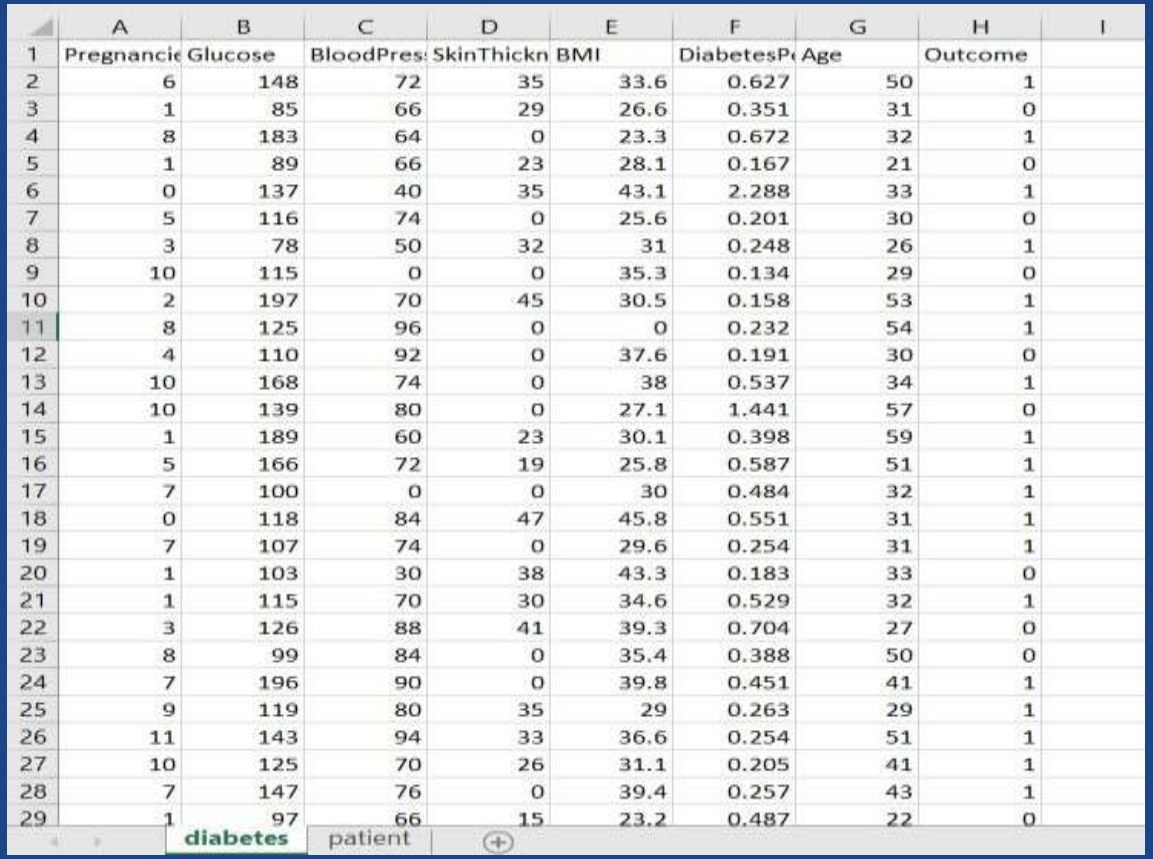
**Integrated Prediction Model:**

Utilizing Insulin and Age to Assess Diabetes Risk Based on Multivariate Health Factors

# OBJECTIVE

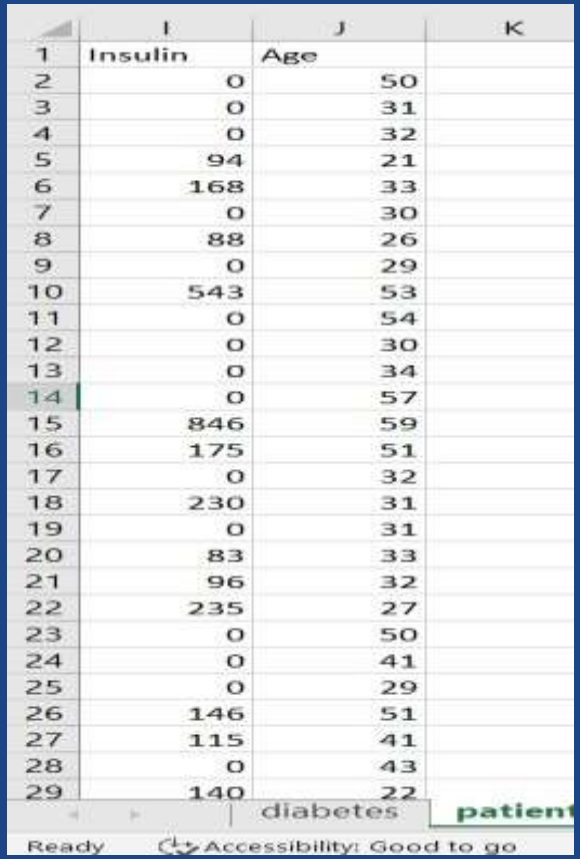
Diabetes risk prediction model that integrates insulin and age with essential health markers including glucose, BMI, skin thickness, and blood pressure. By combining these factors, the model provides a comprehensive assessment of an individual's susceptibility to diabetes.

# DOWNLOAD THE DATASET



| | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Pregnancie | Glucose | BloodPres | SkinThickn | BMI | DiabetesPe | Age | Outcome | |
| 2 | 6 | 148 | 72 | 35 | 33.6 | 0.627 | 50 | 1 | |
| 3 | 1 | 85 | 66 | 29 | 26.6 | 0.351 | 31 | 0 | |
| 4 | 8 | 183 | 64 | 0 | 23.3 | 0.672 | 32 | 1 | |
| 5 | 1 | 89 | 66 | 23 | 28.1 | 0.167 | 21 | 0 | |
| 6 | 0 | 137 | 40 | 35 | 43.1 | 2.288 | 33 | 1 | |
| 7 | 5 | 116 | 74 | 0 | 25.6 | 0.201 | 30 | 0 | |
| 8 | 3 | 78 | 50 | 32 | 31 | 0.248 | 26 | 1 | |
| 9 | 10 | 115 | 0 | 0 | 35.3 | 0.134 | 29 | 0 | |
| 10 | 2 | 197 | 70 | 45 | 30.5 | 0.158 | 53 | 1 | |
| 11 | 8 | 125 | 96 | 0 | 0 | 0.232 | 54 | 1 | |
| 12 | 4 | 110 | 92 | 0 | 37.6 | 0.191 | 30 | 0 | |
| 13 | 10 | 168 | 74 | 0 | 38 | 0.537 | 34 | 1 | |
| 14 | 10 | 139 | 80 | 0 | 27.1 | 1.441 | 57 | 0 | |
| 15 | 1 | 189 | 60 | 23 | 30.1 | 0.398 | 59 | 1 | |
| 16 | 5 | 166 | 72 | 19 | 25.8 | 0.587 | 51 | 1 | |
| 17 | 7 | 100 | 0 | 0 | 30 | 0.484 | 32 | 1 | |
| 18 | 0 | 118 | 84 | 47 | 45.8 | 0.551 | 31 | 1 | |
| 19 | 7 | 107 | 74 | 0 | 29.6 | 0.254 | 31 | 1 | |
| 20 | 1 | 103 | 30 | 38 | 43.3 | 0.183 | 33 | 0 | |
| 21 | 1 | 115 | 70 | 30 | 34.6 | 0.529 | 32 | 1 | |
| 22 | 3 | 126 | 88 | 41 | 39.3 | 0.704 | 27 | 0 | |
| 23 | 8 | 99 | 84 | 0 | 35.4 | 0.388 | 50 | 0 | |
| 24 | 7 | 196 | 90 | 0 | 39.8 | 0.451 | 41 | 1 | |
| 25 | 9 | 119 | 80 | 35 | 29 | 0.263 | 29 | 1 | |
| 26 | 11 | 143 | 94 | 33 | 36.6 | 0.254 | 51 | 1 | |
| 27 | 10 | 125 | 70 | 26 | 31.1 | 0.205 | 41 | 1 | |
| 28 | 7 | 147 | 76 | 0 | 39.4 | 0.257 | 43 | 1 | |
| 29 | 1 | 97 | 66 | 15 | 23.2 | 0.487 | 22 | 0 | |

diabetes | patient

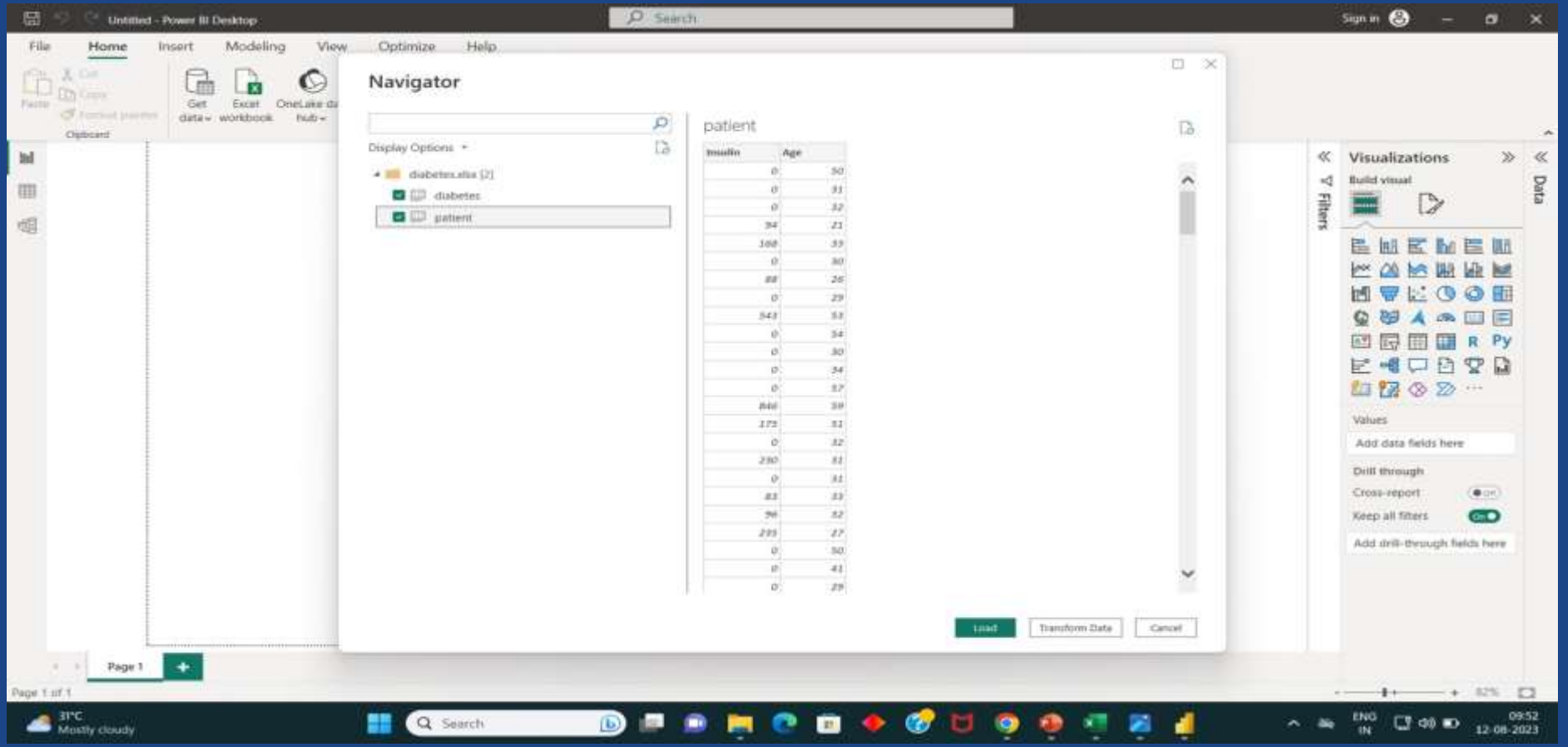


| | I | J | K |
|---|---|---|---|
| 1 | Insulin | Age | |
| 2 | 0 | 50 | |
| 3 | 0 | 31 | |
| 4 | 0 | 32 | |
| 5 | 94 | 21 | |
| 6 | 168 | 33 | |
| 7 | 0 | 30 | |
| 8 | 88 | 26 | |
| 9 | 0 | 29 | |
| 10 | 543 | 53 | |
| 11 | 0 | 54 | |
| 12 | 0 | 30 | |
| 13 | 0 | 34 | |
| 14 | 0 | 57 | |
| 15 | 846 | 59 | |
| 16 | 175 | 51 | |
| 17 | 0 | 32 | |
| 18 | 230 | 31 | |
| 19 | 0 | 31 | |
| 20 | 83 | 33 | |
| 21 | 96 | 32 | |
| 22 | 235 | 27 | |
| 23 | 0 | 50 | |
| 24 | 0 | 41 | |
| 25 | 0 | 29 | |
| 26 | 146 | 51 | |
| 27 | 115 | 41 | |
| 28 | 0 | 43 | |
| 29 | 140 | 22 | |

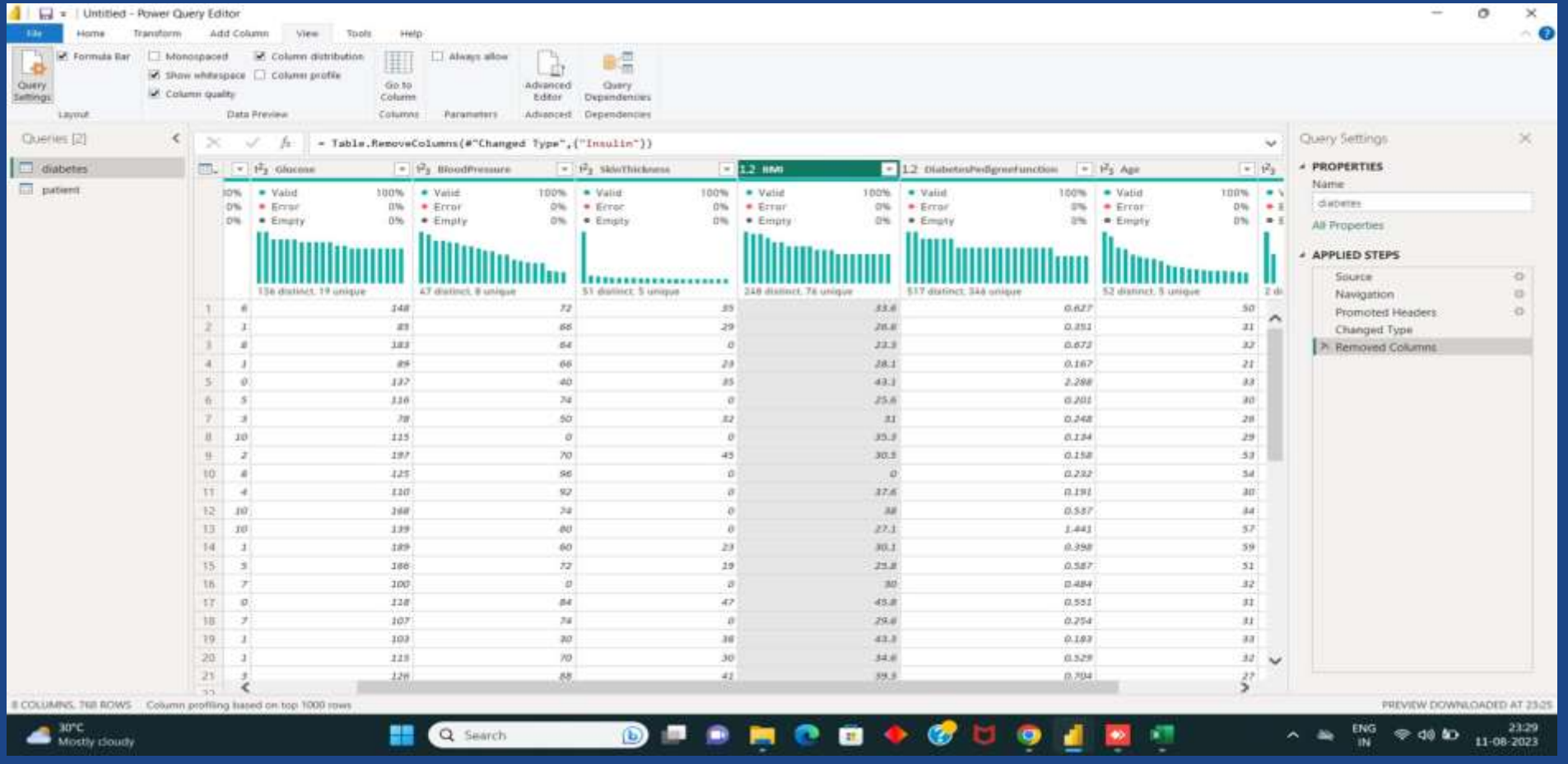
diabetes | patient

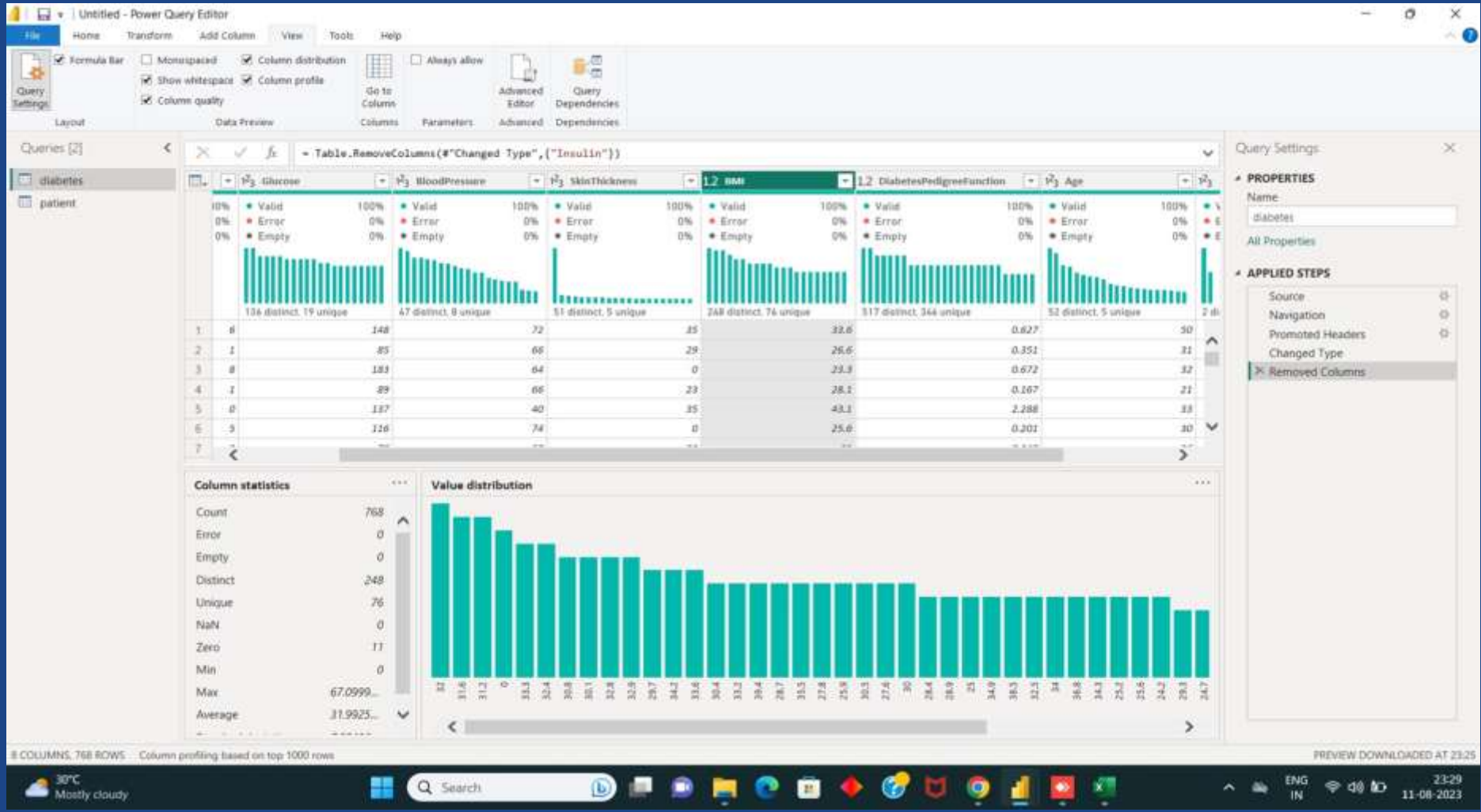
Ready | Accessibility: Good to go

# LOAD THE DATASET IN POWER BI

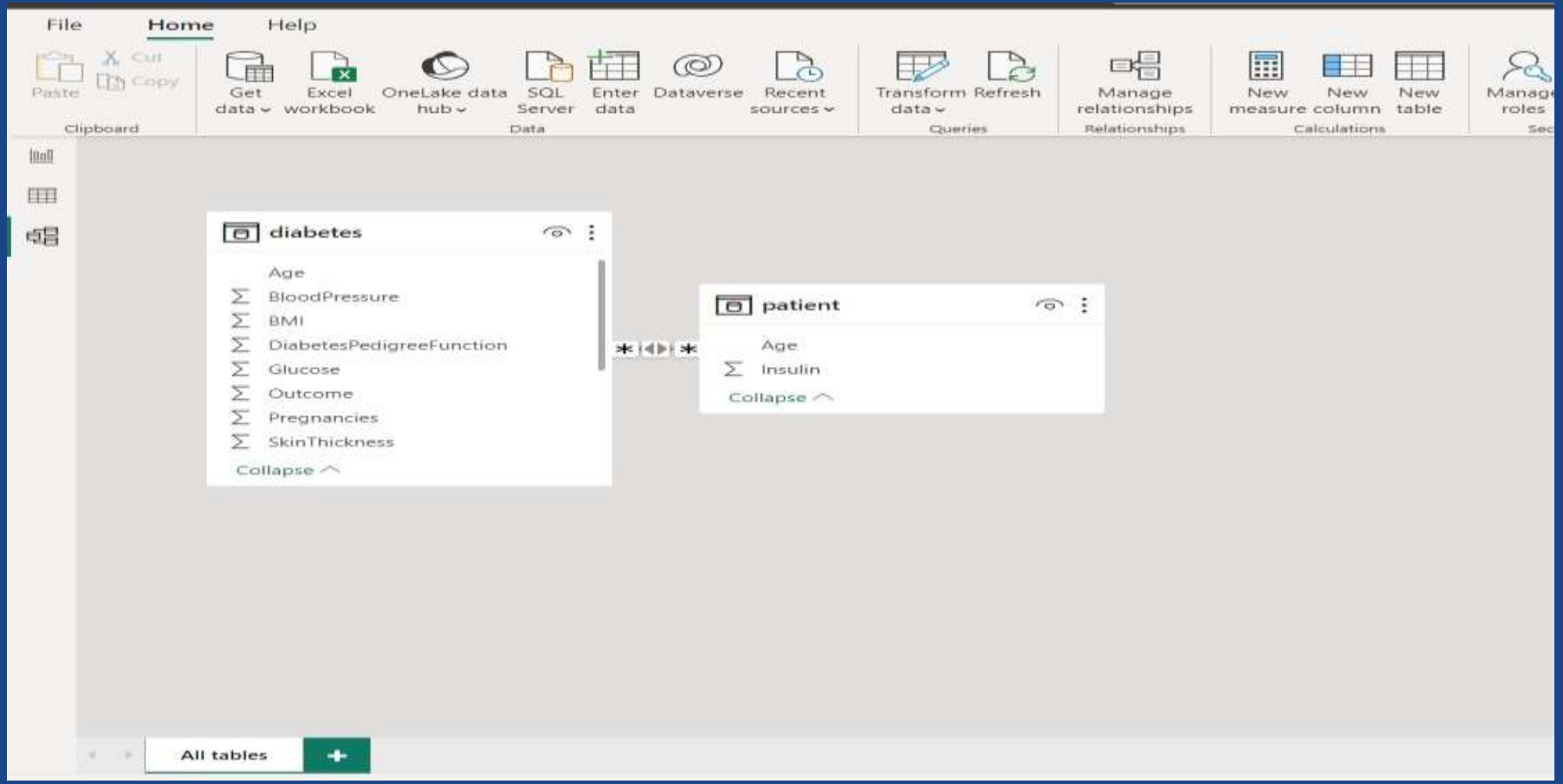


# TRANSFORM DATA




Untitled - Power Query Editor
File
Home
Transform
Add Column
View
Tools
Help
Formula Bar
Monospaced
Column distribution
Show whitespace
Column profile
Column quality
Query Settings
Layout
Data Preview
Go to Column
Columns
Always allow
Parameters
Advanced Editor
Advanced
Query Dependencies
Dependencies
Queries [2]
diabetes
patient
= Table.RemoveColumns(#"Changed Type",{"Insulin"})
Glucose
BloodPressure
SkinThickness
BMI
DiabetesPedigreeFunction
Age
Valid 100%
Error 0%
Empty 0%
136 distinct, 19 unique
47 distinct, 8 unique
51 distinct, 5 unique
248 distinct, 76 unique
517 distinct, 344 unique
52 distinct, 5 unique
1 6 148 72 35 33.6 0.627 50
2 1 85 66 29 26.6 0.351 31
3 8 183 64 0 23.3 0.672 32
4 1 89 66 23 28.1 0.167 21
5 0 137 40 35 43.1 2.288 33
6 5 116 74 0 25.6 0.201 30
Column statistics
Count 768
Error 0
Empty 0
Distinct 248
Unique 76
NaN 0
Zero 11
Min 0
Max 67.0999...
Average 31.9925...
Value distribution
Query Settings
PROPERTIES
Name
diabetes
All Properties
APPLIED STEPS
Source
Navigation
Promoted Headers
Changed Type
Removed Columns
8 COLUMNS, 768 ROWS
Column profiling based on top 1000 rows
PREVIEW DOWNLOADED AT 23:25
30°C
Mostly cloudy
Search
ENG
IN
23:29
11-08-2023

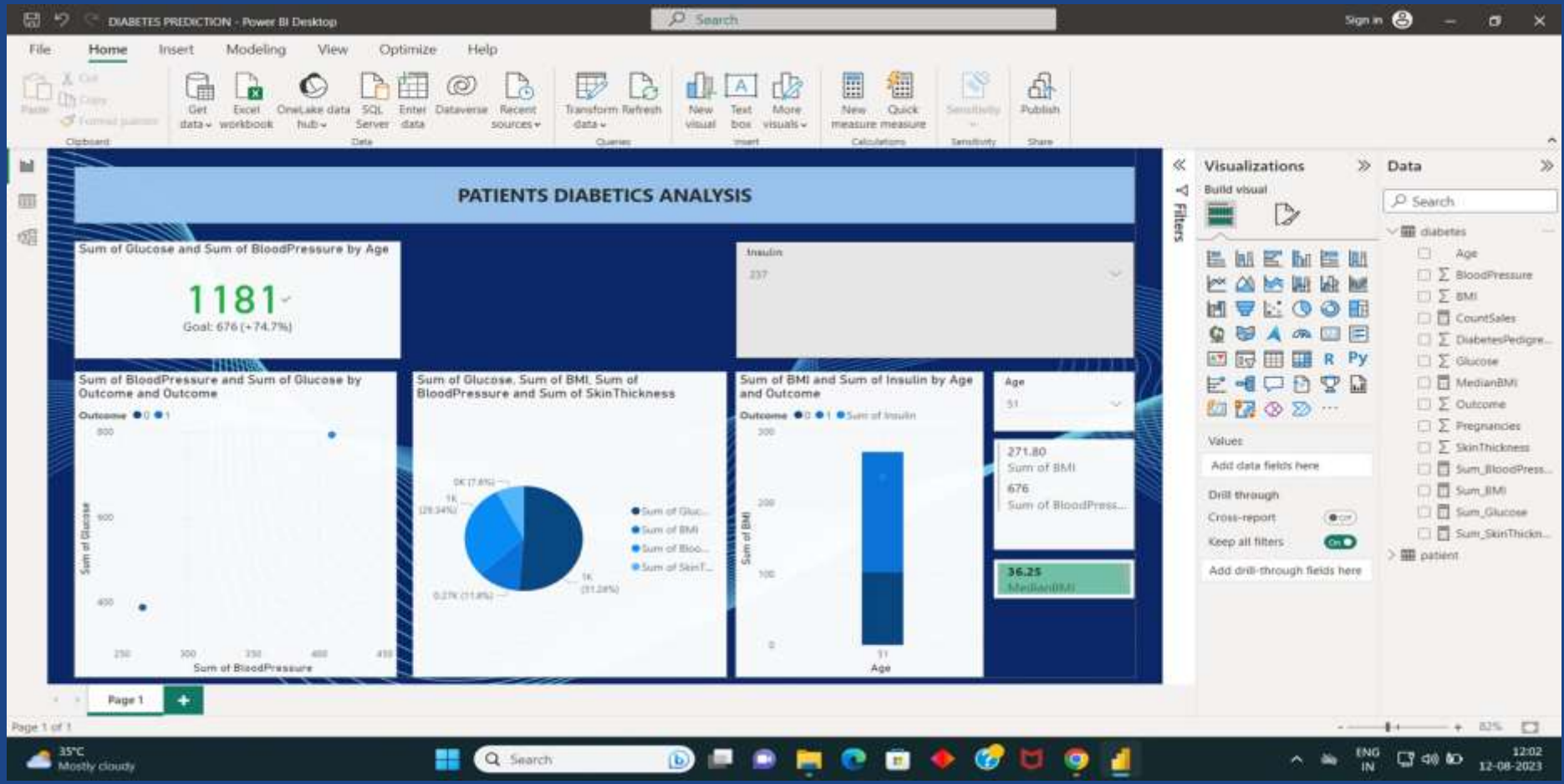
# RELATIONSHIP BETWEEN TWO TABLE



# DAX CALCULATIONS

- CountBloodPressure = COUNT('diabetes'[BloodPressure])
- MedianBMI = MEDIAN('diabetes'[BMI])
- Sum_BloodPressure = SUM(diabetes[BloodPressure])
- Sum_BMI = SUM('diabetes'[BMI])
- Sum_Glucose = SUM('diabetes'[Glucose])
- Sum_SkinThickness = SUM('diabetes'[SkinThickness])

# OUTPUT


DIABETES PREDICTION - Power BI Desktop
Search
Sign in
File
Home
Insert
Modeling
View
Optimize
Help
PATIENTS DIABETICS ANALYSIS
Sum of Glucose and Sum of BloodPressure by Age
1181
Goal: 676 (+74.7%)
Insulin
237
Sum of BloodPressure and Sum of Glucose by Outcome and Outcome
Outcome 0 1
Sum of Glucose
Sum of BloodPressure
Sum of Glucose, Sum of BMI, Sum of BloodPressure and Sum of SkinThickness
Sum of BMI and Sum of Insulin by Age and Outcome
Outcome 0 1 Sum of Insulin
Sum of BMI
Age
Age
51
271.80
Sum of BMI
676
Sum of BloodPress...
36.25
MedianBMI
Page 1
Visualizations
Build visual
Values
Add data fields here
Drill through
Cross-report
Keep all filters
Add drill-through fields here
Data
Search
diabetes
Age
BloodPressure
BMI
CountSales
DiabetesPedigre...
Glucose
MedianBMI
Outcome
Pregnancies
SkinThickness
Sum_BloodPress...
Sum_BMI
Sum_Glucose
Sum_SkinThickn...
patient
Filters
Page 1 of 1
82%
35°C
Mostly cloudy
Search
ENG
IN
12:02
12-08-2023

# THANK YOU !

**TEAM MEMBERS:**

1. **Priyadharshini. M**
2. **Adhilakshmi. M**
3. **Srilekha. S**