import streamlit as st

import numpy as np

# Title

st.title("PCOS Metabolic Risk Calculator")

st.markdown("### Predicts the risk of metabolic syndrome in women with PCOS based on clinical and lab parameters.")

# Input fields

bmi = st.number\_input("BMI (kg/m²)", min\_value=15.0, max\_value=50.0, value=28.0)

waist = st.number\_input("Waist Circumference (cm)", min\_value=60.0, max\_value=120.0, value=85.0)

triglycerides = st.number\_input("Triglycerides (mg/dL)", min\_value=50.0, max\_value=400.0, value=150.0)

hdl = st.number\_input("HDL (mg/dL)", min\_value=20.0, max\_value=100.0, value=45.0)

fbs = st.number\_input("Fasting Blood Sugar (mg/dL)", min\_value=60.0, max\_value=200.0, value=95.0)

# Coefficients from the fitted logistic regression model

const = -46.8567

coef\_bmi = 0.2386

coef\_waist = 0.3346

coef\_tg = 0.0239

coef\_hdl = 0.0048

coef\_fbs = -0.0150

# Calculate risk score

logit = (

const +

coef\_bmi \* bmi +

coef\_waist \* waist +

coef\_tg \* triglycerides +

coef\_hdl \* hdl +

coef\_fbs \* fbs

)

prob = 1 / (1 + np.exp(-logit))

# Display result

st.markdown("### Result:")

if prob < 0.33:

st.success(f"Low risk of metabolic syndrome (Probability: {prob:.2f})")

elif prob < 0.66:

st.warning(f"Moderate risk of metabolic syndrome (Probability: {prob:.2f})")

else:

st.error(f"High risk of metabolic syndrome (Probability: {prob:.2f})")