

$$Y_i \sim \text{Ber}(p_i) \quad p_i \in [0, 1]$$

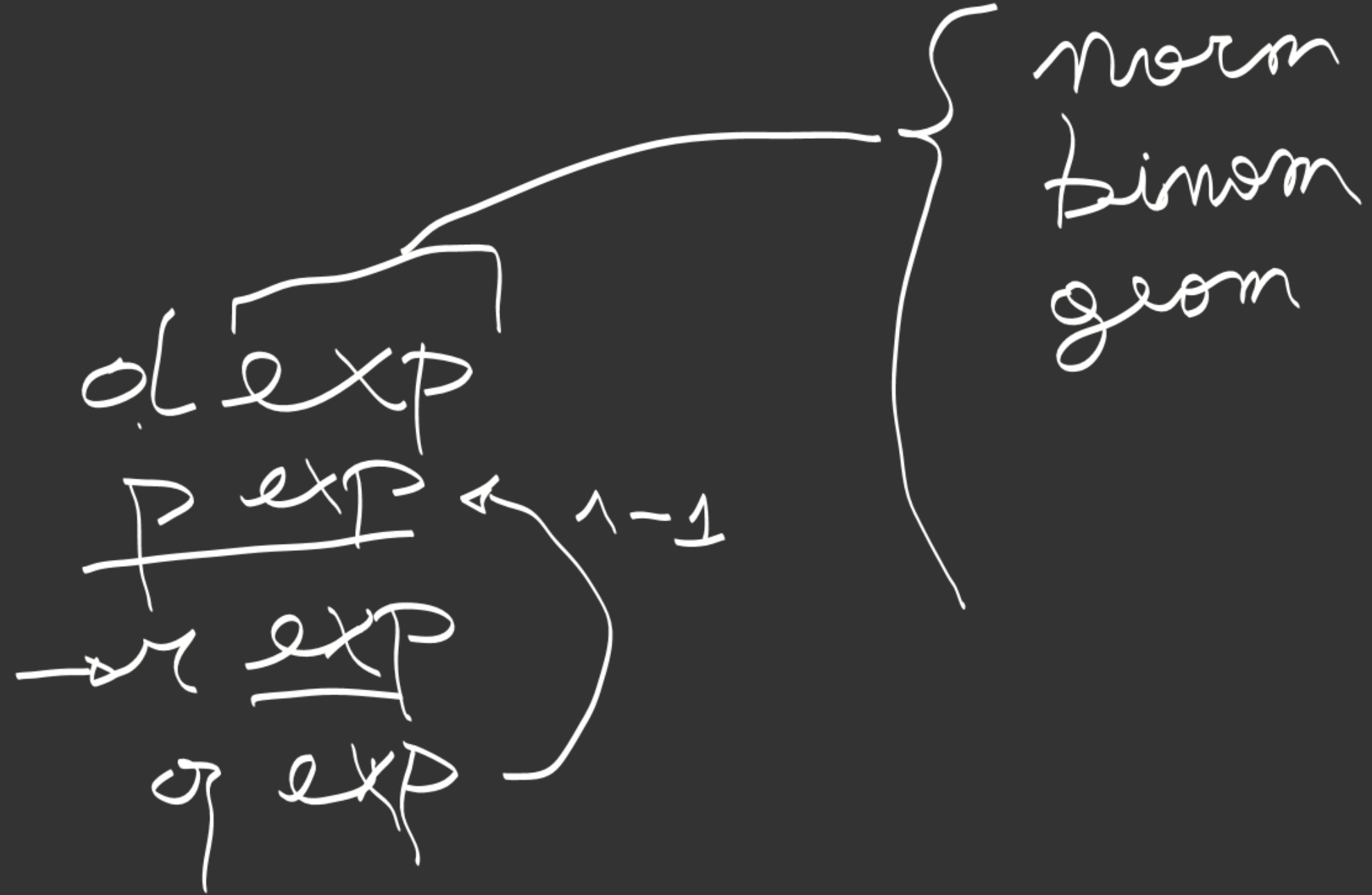
$$x_i \xrightarrow{?} p_i$$

$$\underline{p_i = \alpha + \beta x_i : p_i \in [0, 1]}$$

$$Y | X_1, X_2, \dots, X_P \sim f(\theta)$$

$$E[Y | \dots] = \underline{g(\theta)}$$

$$\underline{g(p_i)} = \underline{\hat{\alpha}} + \cancel{\hat{\beta}} x_i \rightarrow p = 0.5$$



TASK:

1) LM: $\boxed{DUR \sim \underline{TEMP} + \underline{AGE}}$

2) GLM

$DUR = 0$


3) USE MODEL 2) TO PREDICT

$\left(P(Y > 0 | \underline{TEMP = 38}, \underline{AGE = 45}) \right)$

TOMORROW

10:00 AM.

$$\ln\left(\frac{P_i}{1-P_i}\right) = -271 + 7 \text{TEMP} \\ + 0.07 \text{AGE}$$

$$P_i = \frac{\exp(\dots)}{1 + \exp(\dots)}$$


The diagram consists of two arrows. One arrow starts from the first ellipsis (...) in the numerator of the logistic function and points upwards and to the right towards the constant term -271 and the coefficient 7 in the equation above. The second arrow starts from the second ellipsis (...) in the denominator and points upwards and to the left towards the coefficient 0.07 in the equation above.

