data anemia\_numeric; /\* Create or modify the dataset \*/

set anemia\_data; /\* Reference the existing dataset \*/

/\* Convert Anemia Level to Numeric Values \*/

if Anemia\_level= 'Not anemic' then Anemia\_Value = 0;

else if Anemia\_level= 'Mild' then Anemia\_Value = 1;

else if Anemia\_level= 'Moderate' then Anemia\_Value = 2;

else if Anemia\_level= 'Severe' then Anemia\_Value = 3;

run;

/\* T-Test Analysis \*/

/\* Comparing Hemoglobin level with binary variables \*/

proc ttest data=anemia\_numeric;

class Mosquito\_net;

var Anemia\_Value;

run;

proc ttest data=anemia\_numeric;

class Smokes;

var Anemia\_Value;

run;

proc ttest data=anemia\_numeric;

class Iron\_pills;

var Hemoglobin\_level;

run;

proc ttest data=anemia\_numeric;

class Fever\_last\_2\_weeks;

var Anemia\_Value;

run;

/\* ANOVA Analysis \*/

/\* Analyzing Hemoglobin level across categorical variables \*/

proc anova data=anemia\_numeric;

class Education\_level;

model Anemia\_Value = Education\_level;

run;

proc anova data=anemia\_numeric;

class Wealth\_index;

model Anemia\_Value = Wealth\_index;

run;

proc anova data=anemia\_numeric;

class Residence\_type;

model Anemia\_Value = Residence\_type;

run;

1. **to identify key maternal socioeconomic factors, such as education level and household wealth, that are associated with anemia risk among Nigerian children aged 0-59 months.**
2. **To analyze the impact of urban-rural disparities on the prevalence and severity of anemia among Nigerian children.**
3. **To develop and evaluate machine learning models for predicting anemia risk based on maternal socioeconomic characteristics and demographic factors.**

These objectives clearly outline the purpose of your study, directly correspond to your research questions, and are framed to provide actionable insights.