**PATAN MULTIPLE CAMPUS**

Practical – 5 Correlation and Regression

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| Roll No.: 23 | Date: 2081-05-30 |
| Program: BIT | Semester: 2nd |
| Subject: Basic Statistics | Section: A |

**Question**: The following observations of nutrition and child mortality are as follows:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Nutrition | 12.1 | 9.1 | 26 | 6.4 | 9.5 | 18.5 | 22.8 | 17.4 | 13.9 | 3.2 |
| Child mortality | 9.5 | 9.2 | 11.8 | 6.4 | 7.3 | 20.3 | 24.4 | 21.1 | 10.7 | 3.5 |

(i) Calculate Karl Pearson's correlation coefficient and test its significance and find the limits of population correlation coefficient. Find coefficient of determination and interpret it.

(ii) Find the regression equation of child mortality on nutrition. Estimate the child mortality when nutrition is 20.5. Interpret the slope. Find coefficients of determination.

**Working Expressions:**

**Calculation**:

1. **Data**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Nutrition | 12.1 | 9.1 | 26 | 6.4 | 9.5 | 18.5 | 22.8 | 17.4 | 13.9 | 3.2 |
| Child mortality | 9.5 | 9.2 | 11.8 | 6.4 | 7.3 | 20.3 | 24.4 | 21.1 | 10.7 | 3.5 |

1. **Syntax**
2. DATASET ACTIVATE DataSet0.

CORRELATIONS

/VARIABLES=nutrition child\_mortality

/PRINT=TWOTAIL NOSIG FULL

/MISSING=PAIRWISE.

1. REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA CHANGE

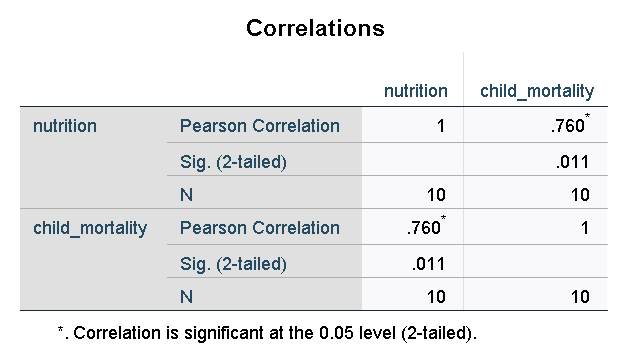
/CRITERIA=PIN(.05) POUT(.10)

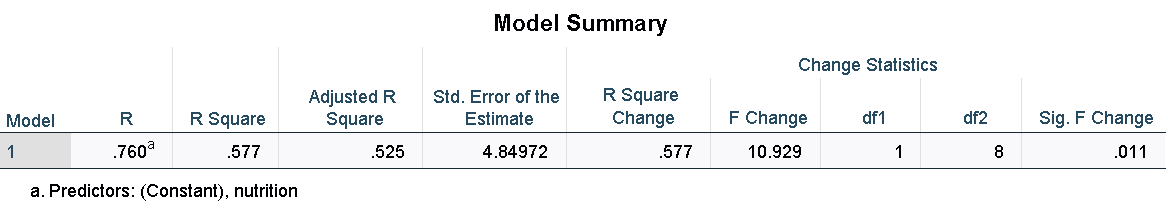
/NOORIGIN

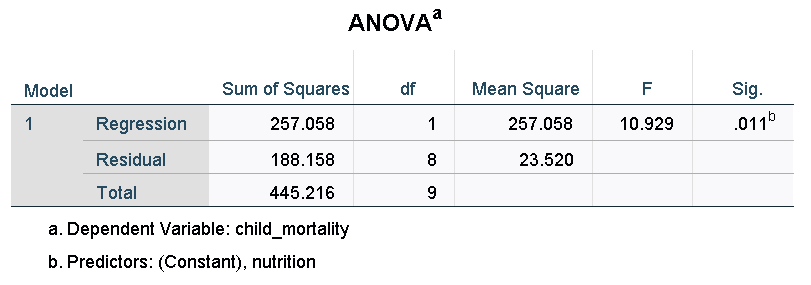
/DEPENDENT child\_mortality

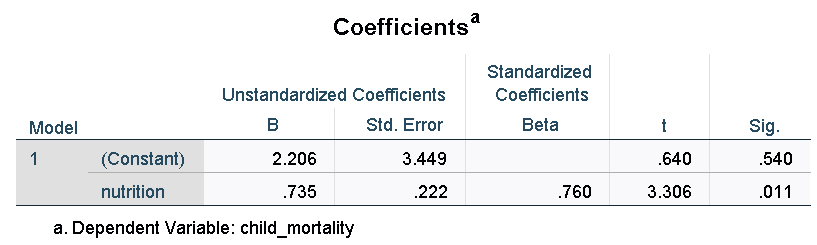
/METHOD=ENTER nutrition.

1. **Output**

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