**PATAN MULTIPLE CAMPUS**

Practical – 6 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 data gives the age and blood pressure (BP) of 10 sports persons.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name | A | B | C | D | E | F | G | H | I | J |
| Age | 42 | 36 | 55 | 58 | 35 | 65 | 60 | 50 | 48 | 51 |
| Blood pressure | 98 | 93 | 110 | 85 | 105 | 108 | 82 | 102 | 118 | 99 |

(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 blood pressure on age. Estimate the blood pressure when age is 50.

**Working Expressions:**

**Calculation**:

1. **Data**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name | A | B | C | D | E | F | G | H | I | J |
| Age | 42 | 36 | 55 | 58 | 35 | 65 | 60 | 50 | 48 | 51 |
| Blood pressure | 98 | 93 | 110 | 85 | 105 | 108 | 82 | 102 | 118 | 99 |

1. **Syntax**
2. CORRELATIONS

/VARIABLES=age bp

/PRINT=TWOTAIL NOSIG FULL

/MISSING=PAIRWISE.

1. REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA CHANGE

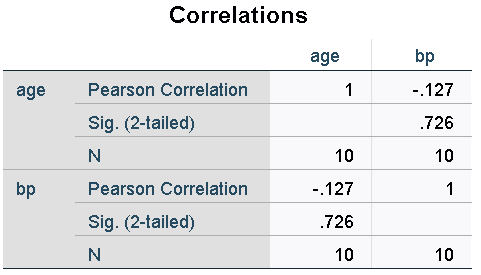
/CRITERIA=PIN(.05) POUT(.10)

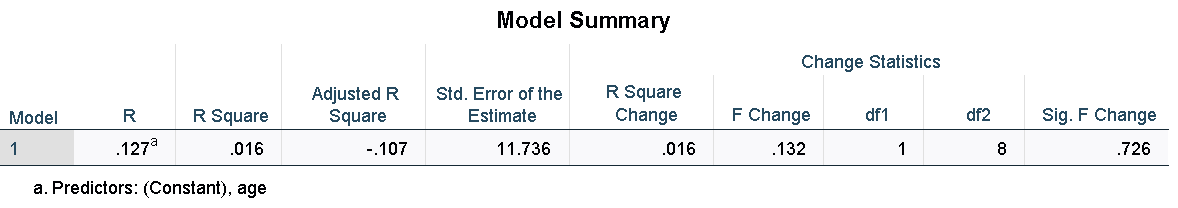
/NOORIGIN

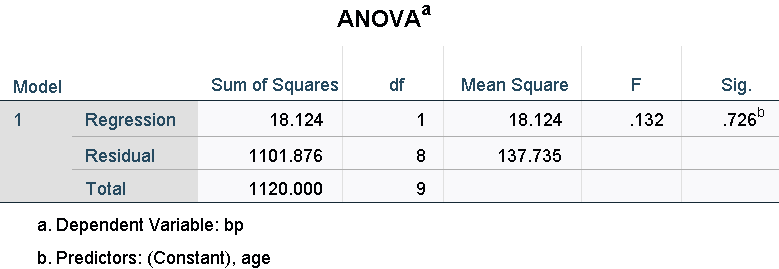
/DEPENDENT bp

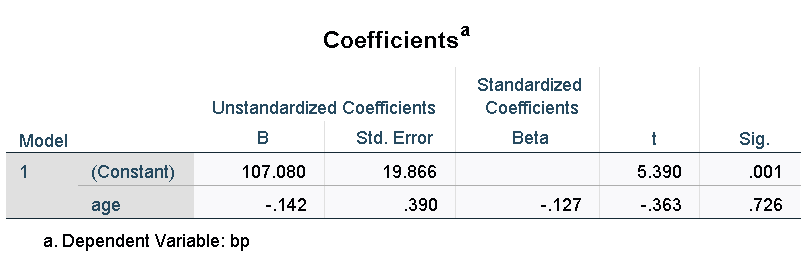
/METHOD=ENTER age.

1. **Output**

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