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REPORT

Laboratory Work N2

*Aim of Work:*

*To study the process of testing hypotheses about the distribution of data.*

*Results:*

1. Test hypotheses and find which distribution better describe your data
   1. Test hypothesis about normal distribution of the data

|  |  |  |  |
| --- | --- | --- | --- |
|  | Test value | Confidence level α | Acceptance region |
| Kolmogorov-Smirnov Test | 0.0681 | 0.95 | (0: 0.192) |

*\* - round to 2 decimal places*

***Conclusion:***

* 1. *Test hypothesis about exponential distribution of the data*

|  |  |  |  |
| --- | --- | --- | --- |
|  | Test value | Confidence level α | Acceptance region |
| Kolmogorov-Smirnov Test | 0.5289 | 0.95 | (0: 0.192) |

*\* - round to 2 decimal places*

***Conclusion:***

* 1. *Test hypothesis about Gamma distribution of the data*

|  |  |  |  |
| --- | --- | --- | --- |
|  | Test value | Confidence level α | Acceptance region |
| Kolmogorov-Smirnov Test | 0.2836 | 0.95 | (0: 0.192) |

*\* - round to 2 decimal places*

***Conclusion:***

* 1. *Test hypothesis about uniform distribution of the data*

|  |  |  |  |
| --- | --- | --- | --- |
|  | Test value | Confidence level α | Acceptance region |
| Kolmogorov-Smirnov Test | 0.1936 | 0.95 | (0: 0.192) |

*\* - round to 2 decimal places*

***Conclusion:***

* 1. *Test hypothesis about Chi Square distribution of the data*

|  |  |  |  |
| --- | --- | --- | --- |
|  | Test value | Confidence level α | Acceptance region |
| Kolmogorov-Smirnov Test | 0.3549 | 0.95 | (0: 0.192) |

*\* - round to 2 decimal places*

***Conclusion:***

**Conclusion to the section 1:**

1. Test hypotheses about normal distribution of the data using approximate method

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | *Value* | *Standard error* | *Quantile of the standard normal distribution (α=0.05)* | *Acceptance region* |
| *Skewness* | 0.1534 | 0.3366 | 1.96 | (0; 0.6398) |
| *Kurtosis* | |-0.1856| | 0.6619 | 1.96 | (0; 1.1712) |
| *Adjusted value* |
| |-0.06796| |

**Conclusion to the section 2:**