# Q.NO.3

**Name**: Sulav Adhikari

**Roll Number**: 23081003

**Subject:** Statistics II, Lab 2 (BSC. CSIT III Sem)

**Section**: B

# Working Expression:

Sample mean−Population mean

t=

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# Working Procedure:

Define variables time in minute variable’s view → Type, numeric → Label, Time in minutes → measure, scale → input data in data view →Analysis -> compare means -> one sample t-test -> put in test variables ->options, 95% -> continue -> test value=30 -> ok

# SPSS OUTPUT:

**One-Sample Test**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Test Value = 30 | | | | | |
| t | df | Sig. (2-  tailed) | Mean Difference | 95% Confidence Interval of  the Difference | |
| Lower | Upper |
| Time in  minutes | 1.484 | 23 | .151 | 3.667 | -1.44 | 8.78 |

# Setting of Hypothesis:

H0: The time spent by customers is equal to 30 minutes

H1: The time spent by customers is more than 30 minutes (one tailed test)

# Level of significance

α =0.05

# Decision:

Here p-value (two tailed) (2p) = 0.151 P=0.075(one tailed)

Since p=0.075> α =0.05, we accept H0 and H1 is rejected.

# Conclusion:

Hence, we conclude that time spent by customers is equal to 30 minutes.

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# Q.NO.4

# Working Expression:

Sample mean−Population mean

t=

𝑆𝑡𝑎𝑛𝑑𝑎𝑟𝑑 𝑒𝑟𝑟𝑜𝑟

# Working Procedure:

Define variables download speed variable’s view → Type, numeric → Label, Download Speed → measure, scale → input data in data view →Analysis → compare means → one sample t-test

→put in test variables →options, 95% → continue → test value=100 → ok

# SPSS OUTPUT:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **One-Sample Test** | | | | | | |
|  | Test Value = 100 | | | | | |
| t | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference | |
| Lower | Upper |
| Download Speed | -2.149 | 97 | .034 | -3.276 | -6.30 | -.25 |

**Setting of Hypothesis:**

H0: The Population mean is equal to 100 Mbps.

H1: The Population mean is not equal to 100 Mbps. (Two tailed test)

# Level of significance

α =0.05

# Decision:

Here p-value (two tailed) (2p) = 0.034

Since p=0.034<α =0.05, we reject H0 and H1 is accepted.

# Conclusion:

Hence, we conclude that the Population mean is not equal to 100 Mbps.