**Lab Report of Probability and Statistics on SPSS**

Submitted to

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| Submitted by | Roll No. | Group | Lab No. | Lab Date | Submission Date |
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| Lab Title: Descriptive Statistics | | | | | |
| Signature of Instructor: | | | | | |

**Objectives:**

1. To construct different descriptive statistics such as mean, standard deviation, skewness and Kurtosis
2. To compute cluster-mean of different sub populations.

**Procedure for objective 1**:

The formulas necessary for the different computations of the objective:

1. Mean,
2. Standard Deviation,

|  |  |
| --- | --- |
| **Step 1:** From the various options present in the uppermost part of the software, “Analyze” is selected from which “Descriptive Statistics” is selected. Then “Descriptives” is chosen. |  |
| **Step 2:** After following the 1st step, the window as shown in the attached image gets opened. Then among the variables present, variables with measure- “Scale” are selected. |  |
| **Step 3:** From the 2nd step, when the “Options” is selected, “Descriptives: Options” window gets opened where there are various descriptive statistics present which can be selected as required. As per the requirement of the objective, the check box for “Mean”, “Std. deviation”, “Kurtosis”, and “Skewness” are ticked and clicked on “Continue”. Then, the “Ok” is clicked in the window of the 2nd step. |  |

**Output of objective 1:**

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| --- | --- |
| After completing above steps, the Output screen of the software produces a table consisting of the Descriptive Statistics as selected by the user. The table shows the calculated values for the variables- “Age”, “Income”, and “SEE” where all these data are scale measure. |  |

**Conclusion for objective 1:**

The calculations for the different descriptive statistics can be done easily and efficiently using the software following the above steps for the given available data. The software analyzes all the available data to calculate the required values such as mean, median, standard deviation, kurtosis, skewness, sum, variance, etc. These calculations can be presented in separate table as well as in a single one as shown above.

**Procedure for objective 2:**

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| --- | --- |
| **Step 1:** From the options in the row consisting file, edit, view, data, etc. choose the option of “Analyze” where “Compare Means” is selected. Then “Means” option is to be selected for the computation of the cluster mean. |  |
| **Step 2:** After the 1st step, “Means” window gets opened where “Dependent List” and “Independent List” are to be selected. As shown in the image, “Age” and “Provinces of Nepal” are selected as the variables for computation for “Dependent List” and “Independent List” respectively. |  |
| **Step 3:** From the above step, “Options” present in the window, after its selection, the tab as shown in the attached image gets prompted. Here, the statistics required for the objectives are selected and then clicked on “Continue” which leads to the above tab; there Ok is selected to produce the output. |  |

**Output of objective 2:**

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| --- | --- |
| The output screen of the SPSS software then prompts the page that shows the report table consisting of the computed values such as Mean, Standard Deviation, and Median. The report so generated by the software is the computed cluster mean of the different sub-populations. |  |

**Conclusion for objective 2:**

The created “Report” consists of different computed values such as mean, median, standard deviation, and the number of each case present in the respective variables. The above table consists of values “Age” and “Provinces of Nepal” where they are provided to the software as “Dependent List” and “Independent List” respectively.