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

Submitted to

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| Lab Title: Classification and Tabulation of Data | | | | | |
| Signature of Instructor: | | | | | |

**Objectives:**

1. To create string values to numerical values and vice-versa of the categorical data
2. To prepare frequency table of the data
3. To transfer the raw data into desired form of data for further analysis
4. To prepare the frequency table of the grouped data
5. To prepare Cross tabulation.

**Procedure for objective 1**:

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| **Step 1:** In the Variable View window of the SPSS in the Values column, the values are defined with their specified labels. Here, the values are defined for the seven provinces of Nepal with their respective numbers such as 1 for “Koshi”, 2 for “Madhesh” and so on. |  |
| **Step 2:** Similarly, for the gender specification, 1 is defined for “Male” and 2 is defined for “Female”. |  |

**Output of objective 1:**

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| The Data View of the column- Gender and Province shows the string value for the respective numerical input values. Here, as given by the description of the steps above, the numerical value 1 gives the string value- “Male” and 2 gives “Female”. Similarly, for Province, their specified numerical values give required provinces. |  |

**Conclusion for objective 1:**

The categorical data creation of the string values to numerical values and vice-versa was completed by assigning numerical values for the respective string values such as assigning of the province name with their numerical values and for the gender specification of whether male or female. The data so entered was checked for whether the respective values were correctly taken or not.

**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 “Descriptive statistics” is to be clicked that gives different options for various types of description. Here, as shown in the image choose the “Frequencies” option. |  |
| **Step 2:** After the above step, the “Frequency” tab is prompted where the variable is chosen, of which the frequency table is to be seen. As shown in the image, choose the variable that is to be seen. Here, “Income” is taken as the variable whose frequency is to be seen. |  |

**Output of objective 3:**

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| The output screen of the SPSS software then prompts the page that shows the frequencies of the variable that was previously chosen. In that way, the frequency of the variable “Income” was shown as seen in the attached image. |  |

**Conclusion for objective 2:**

The frequency table of the variables included in the dataset were created using the analyze option which allows the user to create various tables of descriptive statistics. In this objective, frequency table of the variable “Income” was taken which shows large number of data relating to the respective variable that are valid including their valid percentage and cumulative percent and frequency.

**Procedure for objective 3:**

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| **Step 1:** From the options in the row consisting file, edit, view, data, etc. choose the option of “Transform” where “Recode into Different Variables” is to be chosen. |  |
| **Step 2:** The above step leads to the prompt of the selected option where the numeric variable is chosen to create output variable which is used in the grouping of the data for the respective variables. Then, provide separate name for the output variable and specify the label. Then, click on the “Old and New Values” |  |
| **Step 3:** After the completion of the 2nd step, the prompt to specify the range for the grouping of the data gets displayed. Then, after clicking on the “Range” option, specify the range and write the display value in accordance to the range. Then, click on the “Add” option which will then add the specified range for the given values. Click on the “Continue” to save the changes. |  |

**Output of objective 3:**

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| The grouping of the data according to the specified range was done and the respective range was displayed as its value as shown in the image. Here, the grouping of the “Income” was done to display as “IncomeClass” and “SEE” was done to display as “GPA”. |  |

**Conclusion for objective 3:**

The requirement of the 3rd objective was to transfer the raw data into desired form of data for further analysis which means that the large amount of data was to be grouped in a certain format which creates a simple way of understanding. This was done by assigning a different variable and specifying a certain range to the existing data.

**Procedure for objective 4**:

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| **Step 1:** In the uppermost row consisting options like file, edit, view; choose “Analyze”, there click on the “Descriptive Statistics”. Among other options, choose “Frequencies”. |  |
| **Step 2:** After the above step, the “Frequency” tab is prompted where the variable is chosen, of which the frequency table is to be seen. As shown in the image, choose the variable that is to be seen. Here, “Income Data” and “Grade Point Average of Students” is taken as the variable whose frequency is to be seen where these variables contain grouped data. The table so given shows the grouped data of the “Income” and “GPA”. |  |

**Output of objective 4:**

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| The output screen of the SPSS software then prompts the page that shows the frequencies of the variable that was previously chosen. In that way, the frequency of the variable “Income” and “Grade Point Average of Students” which contains the grouped data of the respective variables was shown as seen in the attached image. |  |

**Conclusion for objective 5:**

The procedure effectively created the frequency tables of the grouped data as per the requirements and choice of the user. The frequency table of the grouped data was created in the same way as that of the ungrouped data with the difference being that the variable chosen was that with the grouped data.

**Procedure for objective 5**:

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| **Step 1:** In the uppermost row consisting options like file, edit, view; choose “Analyze”, there click on the “Descriptive Statistics”. Among other options, choose “Crosstabs”. |  |
| **Step 2:** The “Crosstabs” tab gets prompted. Specify the variable to be kept in row and column for the type of crosstab that is required respectively. Here, “Province” is taken as the row and “Grade Point Average” as the column. |  |

**Output of objective 5:**

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| Upon following the above steps, the crosstabs of the province and GPA was created. The image shows the crosstab of the chosen variables where the GPA of the students is respectively categorized with respect to the provinces. |  |

**Conclusion for objective 5:**

The procedure effectively demonstrates how to create the crosstabs in the output screen of the SPSS software. The crosstab creates the crosstabs of the various variables which can be used for the further analysis of the data. Here, the crosstabs was used to analyze the data of the province and GPA of the students where the GPA distribution was done according to the 7 provinces for 400 students.