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DEVELOPING JAVA APPLETS TO ILLUSTRATE THE BASIC
CONCEPTS IN SIMPLE LINEAR REGRESSION ANALYSIS

A PROJECT REPORT PRESENTED BY

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Regression analysis is one of the most widely used statistical techniques, employed in a large variety of applications and researches. Before applying regression techniques, it is necessary to understand the basic concepts clearly. Statistical software such as MINITAB, SAS, SPSS and STATISTICA can be used for data analysis with a proper understanding of basic concepts. Studying and understanding the linear regression through traditional media would not be very effective. Teachers and students encounter a number of didactic problems, especially when learning and teaching the regression analysis course in statistics.

Nowadays students and teachers are more likely to engage internet-based materials than traditional media. Currently, many computer-based tools are available for statistical learning and teaching. There are interactive textbooks that are e-books, internet accessible applications, and online software. They all vary greatly in quality, scope and price. In a number of aspects, JAVA applets are rather different from most of these. The JAVA programming language has added a new tool for delivering computing applications over the World Wide Web (WWW). Some JAVA applets are already available in the Internet for regression analysis. Most of them are very low loading and running speeds. They do **not have proper documentation** and they are not user-friendly. Some applets have graphics but outputs are not interpretable and understandable.

With the view of overcoming the problems, new applets were developed in Java programming language. Java programming language has some unique characteristics, which help to make applet easier and allow students to access easily and quickly. The use of Java applets can be made simple with the careful implementation of the user interface

design and availability of helping documents. In addition to that a website was upload all these applets with help documents.

Each newly developed applet gives a visual representation of linear regression with ample possibilities to see the asymptotic results build up, or to experiment data and the parameters and see the effects immediately. Those concepts were s which it was thought that an interactive visual applet could have didactic exceeding those attainable with more traditional didactic tools.

The newly developed website coordinates newly developed applets with related and all existing applet links. This website can be simply found by using search engines such as goggle or yahoo and also it is freely accessible over the web. This integrated site is going to help all users to understand all linear regression concepts in without spending much time to search other sites.