

# CS130/230 Assignment 3

## Regression Analysis

**Date Assigned:** Wednesday, January 14, 2004

**Date Due:** Thursday, January 15, 2004

**Total Points:** 50

Add the following worksheets to the same Excel workbook you created for assignment 1. Do not delete the assignment 1 worksheets.

### **Worksheet 1 – name it “Regression Analysis”**

Using the Web, I would like you to find data in an area that you are interested in that lends itself to some kind of regression analysis. On this data, I would like you to perform a linear (or nonlinear) regression that can be used to come to some interesting conclusions regarding the data and the regression equation.

### **Worksheet 2 – name it “Ulcer Rate”**

The following table shows the (lifetime) peptic ulcer rate (per 100 population) for various family incomes as reported by the 1989 National Health Interview Survey:

Income	Ulcer Rate
4000	14.1
6000	13
8000	13.4
12000	12.5
16000	12
20000	12.4
30000	10.5
45000	9.4
60000	8.2

- Enter this data into an EXCEL worksheet and use the regression capabilities of EXCEL to produce a scatterplot of and to fit a linear equation to this data. Make certain that the equation of the regression line is displayed **within** the scatterplot.
- Cut and paste the resulting scatterplot into an **MS WORD document entitled “your PUNET ID”** and answer the following questions:
  - o To what degree are the data correlated?
  - o Using the regression equation, what is the peptic ulcer rate (per 100 population) expected of a family whose income is \$100,000?
  - o What is the expected income of a family whose peptic ulcer rate is 6.7 per 100 population?

Everything in the worksheets should be right justified and formatted correctly (i.e. currency, percentage, etc).

Add both these workshops to Excel workbook you created for your previous assignments and place it in the 'CS130 Drop' folder. Your workbook must be in the drop box by 9am for full credit.