

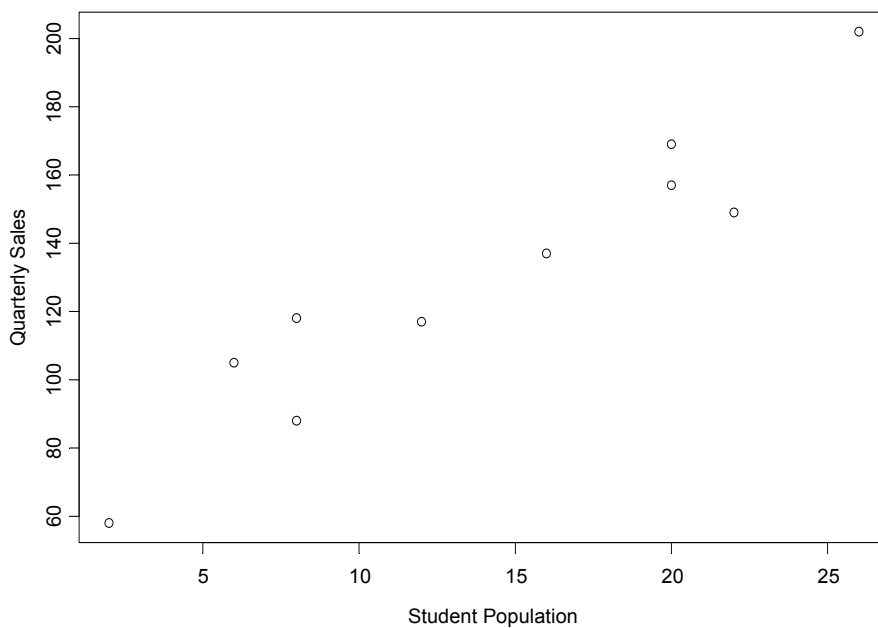
Chapter 14 Regression Analysis

Motivating Example:

The following data were collected from a sample of 10 Pizza restaurants located near college campuses.

Student Population (1000s) x_i	Quarterly Sales (\$1000s) y_i
2	58
6	105
8	88
8	118
12	117
16	137
20	157
20	169
22	149
26	202

The scatter diagram of student population and quarterly sales for Pizza restaurants is given below.



Objectives of this chapter:

- **Find the linear relationship between one variable (quarterly sales) and the other variable (student population) \Rightarrow modeling**
- **Estimation (point estimate and interval estimate) and hypothesis test for the postulated model**
- **Prediction for a new observation**
- **The study of how a variable is related to two or more independent variables**