Sheet 3

Problem 1: *Success or Failure*

Write a program that reads students grades and counts the number of successes and failures. A student succeeds if his grade is greater than or equal to 60 and fails otherwise. The program should continue until a negative grade is entered.

Problem 2: *PI*

Write a program that calculates the value of π from the infinite series

$$\pi = 4 - \frac{4}{3} + \frac{4}{5} - \frac{4}{7} + \frac{4}{9} - \frac{4}{11} + \ldots$$

Print a table that shows the value π approximated by one term of this series, by two terms, by three terms, etc. How many terms of this series do you have to use before you first get 3.14, 3.141, 3.1415, and 3.14159?