# Computer Science 1

# Programming Assignment 6

# Functions & File I/O

# 75 Points

A local event center is hosting holiday events during the month of December. The day of the month, attendance, and cost per attendee for each event is shown below and stored in a file named dec\_events.txt. A copy of the data file is linked to the Program 6 drop box. The data is stored with no column headings, a space between each data item and a return after cost for each event.

|  |  |  |
| --- | --- | --- |
| **Day** | **Attendance** | **Cost ($)** |
| 1 | 450 | 24.99 |
| 2 | 120 | 15.00 |
| 8 | 500 | 35.75 |
| 9 | 750 | 7.00 |
| 15 | 425 | 24.00 |
| 16 | 600 | 30.50 |
| 21 | 225 | 25.00 |
| 22 | 150 | 20.00 |
| 23 | 350 | 15.00 |
| 30 | 175 | 12.50 |
| 31 | 275 | 22.50 |

* Write a program to read the dec\_events.txt file and create a report.
* Store the report into a file named report.txt.
* The report should contain the following data for each event, printed in columns, with column headings:
  + Date
  + Attendance
  + Cost Per Person
  + Gross Revenue generated by the event. (Attendance \* Cost for that event).
* Below the event table, print the total number of people attending events, the total revenue for the events and the average cost per person.
* You should have separate functions to:
  + Read a line of data.
  + Calculate the revenue for an event and return it.
  + Print one line in the report.
  + Print the total attending, total revenue, and average cost per person.
* You can put the statements to accumulate the total attendance and total revenue right in main.
* Your program should work with files containing fewer or more records (lines) than those shown in the table above.

\*\*\* A similar example program, labelled “Student Grades” is posted under Content for Unit 6.

Design your program by completing the CS 150 Program Design Document. Be sure to include a structure chart for the program, the prototype for each function, and a brief description of each function’s purpose. Save the design in a file named DecEvents\_xxx.doc where xxx are your initials and submit it in the Program 6 Design drop box by the date shown in the calendar – this is before the program due date.

Code your program. Save it in a file named events\_xxx.cpp where xxx are your initials.

Compile, run and test your program.

Submit your working .c file in the Program 6 drop box by the due date shown in the calendar.