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Chapter 8

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R8.3, 6, 7, 8, 9, 11, 12, 13

Chapter 8 Written Homework

R8.3 What happens if you try to open a file for reading that doesn't exist? What happens if you try to open a file for writing that doesn't exist?

If we try to open a file for reading that does not exist, an exception will be thrown, and if we try to open a file for writing that does not exist, a new empty file will be created for us.

R8.6 Why are the in and out parameter variables of the encrypt_file function in Section 8.5 reference parameters and not value parameters?

We need to use reference parameters because we need to change the data at the current position. Doing it with the value parameter would mean that we would lose the position after the function returns.

R8.7 Give an output statement to write a date and time in ISO 8601 format, such as 2011-03-01 09:35 Assume that the date and time are given in five integer variables year, month, day, hour, minute.

```
out_file<<setfill('0')<<setw(4)<<year<<"-"<<setfill('0')<<setw(2)<<month<<"-"<<setfill('0')<
<setw(2)<<day<<" "<<setfill('0')<<setw(2)<<hour<<":"<<setfill('0')<<setw(2)<<minute;
```

R8.8 Give an output statement to write one line of a table containing a product description, quantity, unit price, and total price in dollars and cents. You want the columns to line up, like this:

Item	Qty	Price	Total
Toaster	3	$29.95	$89.85
Hair Dryer	1	$24.95	$24.95
Car Vacuum	2	$19.99	$39.98

```
out_file<<left<<setw(20)<<item<<left<<setw(5)<<qty<<left<<setw(10)<<price<<left<<setw(1
0)<<total;
```

R8.9 How can you convert the string "3.14" into the floating-point number 3.14? How can you convert the floating-point number 3.14 into the string "3.14"?

For the former, you can use stringstream, while for the latter, you can use the stof function.

R8.11 If a program woozle is started with the command woozle -DNAME=Piglet -I\eeyore -v heff.cpp a.cpp lump.cpp what is the value of argc, and what are the values of argv[0], argv[1], and so on?

Woozle, -DNAME=Piglet, -I\eeyore, -v, heff.cpp, a.cpp, and lump.cpp.

R8.12 What is the difference between sequential access and random access?

Sequential access files have varying lengths, can be accessed in order, the file cannot be updated in place, are easy to program, but slow to process. On the other hand, random access files have fixed lengths, and you can access the records in any order.

R8.13 What is the difference between a text file and a binary file?

Text files can be seen with a text editor, while binary files are files like program files. When you look at binary files with a text editor, you can only see symbols.