Exercise – File IO: Binary Files

We're going to make a program that handles records from a Library. The book records are stored in a text file like so:

```
001.645.2              <- Call number
Learning C++           <- Title
Gregory Harrison       <- Author
1                      <- Book Status (1=in library, 2=on loan, 3=lost)
001.721.3              <- Call number
C++ for beginners      <- Title
Quentin Resnick        <- Author
2                      <- Book Status (1=in library, 2=on loan, 3=lost)
25 9 1999              <- due date
Me                     <- Borrowers name
```

a) Write a function to load records from a file. Here is some pseudocode:

> OPEN library.dat
> IF library.dat is found and opened THEN
> > READ the binary data into an array from library.dat and THEN close the file
> ELSE
> > OPEN library.txt
> > IF library.txt is not found and opened THEN
> > > PRINT an error message and exit the program
> > ELSE
> > > READ the text file into the array and then close the text file
> > > CREATE and open the binary file library.dat
> > > WRITE the contents of your library records array to the binary file then close the file

b) Write a function to save records to the binary file

c) Write a function to find a record

d) Write a function to display a record on screen

e) Write a function to update the status of one record. This function will also need to update that record (and only that record) in the binary file. Some example pseudocode:

> OPEN library.dat
> SEEK to the appropriate record then
> WRITE the record to the binary file
> close the file

Write a function to add a record. This also needs to add the record to the end of the binary file.