1: Parallel Computing for EM Alogorithm (40%)

2: Database Access from R (30%)

SQL in the pictures following highlighted in blue in the double quotes.

(a) The 'Book' Table:

```
> dbGetQuery(con,"SELECT * FROM Book;")
  BookNumber  Classification
1          1 Natural Science
2          2 Natural Science
3          3 Natural Science
4          4         History
5          5         History
6          6      Philosophy
7          7      Philosophy
8          8      Philosophy
9          9      Philosophy
```

Figure 1: 'Book' Tbale

(b)

```
> dbGetQuery(con, "SELECT Student.StudentID, EntryYear FROM Student, Record, Book
+     where Book.Classification = 'Natural Science'
+     And Record.BookNumber = Book.BookNumber
+     And Record.StudentID = Student.StudentID;")
  StudentID EntryYear
1         1      2018
2         3      2019
3         8      2018
```

Figure 2: Students who borrowed natural science books

(c)

```
> dbGetQuery(con, "SELECT Student.StudentID, Major FROM Student, Record
+            where Record.BookNumber = '8'
+            And Record.StudentID = Student.StudentID
+            And TIMESTAMPDIFF(day, BorrowingTime, ReturnTime)>30;")
  StudentID Major
1         6   Art
```

Figure 3: Students who borrowed book 8 for more than 30 days

3: XML (eXtensive Markup Language) (30%)