

Figure 1 Student-achieves-module example – you should have these tables on your own laptop.

Marks this week:

- 1 mark for properly running functions in PostgreSQL.
- 1 mark for properly running Python programs, calling PostgreSQL functions.

A. Write three functions as follows:

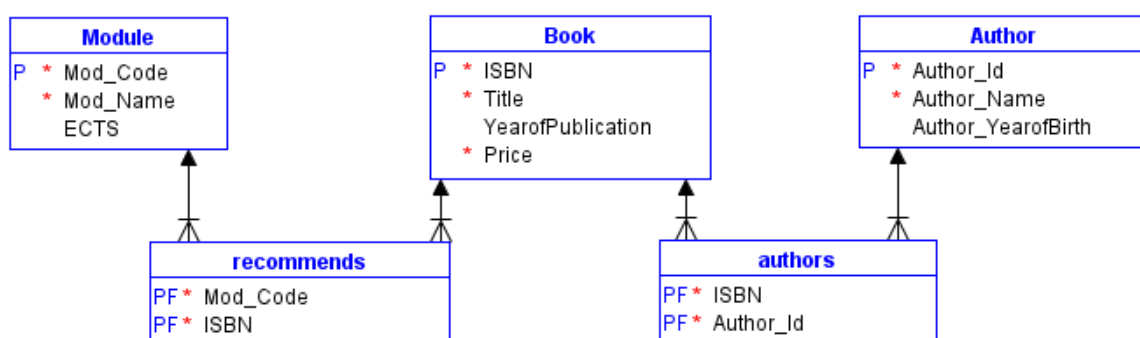
- AddStudent:** add a new row to student, providing the student name and returning the **ST_ID** that is generated.
- AddSubject:** add a new row to subject, providing the student name and returning the **SB_ID** that is generated.
- AddAchievement:** Add a new row to Acheivement, providing the student name and subject name.

B. In Python:

- Write code to query your data (you can decide what you provide).
- Write code to run your function in PostgreSQL.

Lab test practice

The following work is to practice for the lab test. It will not be marked.
From the lab desktops:



The tables above are created and populated on the server in Central Quad. This server can only be accessed while logged on to the lab computers. They are in the SAMPLE schema. You have been given access to the schema.

Write SQL to solve the following questions:

1. Which books (title) are not recommended for any module?
2. Which books (title) are recommended for more than one module?
3. Are any books (title) recommended for all modules?
4. Which authors (author_name) have authored books that were recommended for more than one module?
5. Are there any modules that only recommend the book with title 'SQL Cookbook'?
6. Which authors (Author name) are recommended for either the module with mod_name 'Databases 1' or 'Machine Learning', but not both? (NOTE: Only use the data given in the question. In this case, you must test for the module name – the module code is not given).
7. Display the mod_name of the module that recommends the most books.
8. Display the Title, Year of Publication and Author's name of each book, listing them in order of publication from that author.

- Hint, if it was Children's books, it would be:

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Stormbreaker 2000 Anthony Horowitz 1
Point Blanc 2001 Anthony Horowitz 2
Skeleton Key 2002 Anthony Horowitz 3
Eagle Strike 2003 Anthony Horowitz 4
Scorpia 2004 Anthony Horowitz 5
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- Ark Angel 2005 Anthony Horowitz 6

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Snakehead 2007 Anthony Horowitz 7
Crocodile Tears 2009 Anthony Horowitz 8
Philosopher's Stone 1997, J.K.Rowling 1
Chamber of Secrets 1998, J.K.Rowling 2
Prisoner of Azkaban 1999 , J.K.Rowling 3
Goblet of Fire 2000 J.K.Rowling 4
Order of the Phoenix 2003 J.K.Rowling 5
Half-Blood Prince 2005 J.K.Rowling 6
Deathly Hallows 2007 J.K.Rowling 7
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