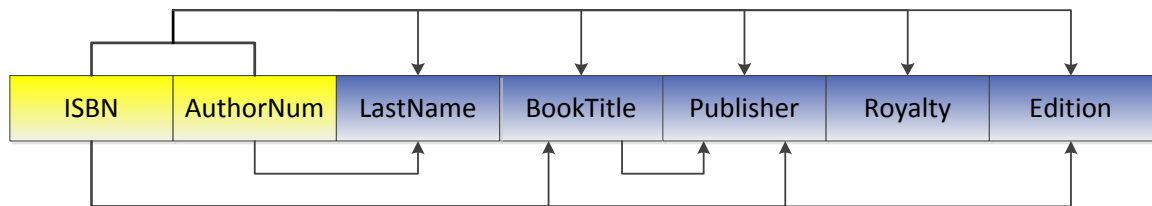


## WEBD 236 Homework 2

Answer the following questions based on your reading of the text book, any supplemental material, and the instructor's presentation this week. If you use an external source (i.e. a web-page, the required textbook, or an additional book) to help you answer the questions, be sure to cite that source. You should probably always be citing a source.

### Short answer

1. **[3 points]** Describe the three separate responsibilities in the MVC pattern and how each interacts with the other.
2. **[3 points]** Given the following dependency diagram, restructure into third normal form and show an ERD.



3. **[4 points]** Given the MicroUniversity.db3 database in SQLite, write queries that answer the following.
  - a. List all the students' first and last names along with their advisor's first and last names.
  - b. List the course code, class section, and course description for all the classes taught by Preston Yukon.
  - c. For each class taught in the business school, list the professor, course name, class section, and total enrollment for that class.
4. **[3 points]** Describe the three types of errors you can encounter in programming. Which is easiest to debug? Which is hardest? Why?

### Programming

5. **[12 points]** Using the MicroUniversity.db3 database and the MVC structure with beautiful URLs discussed in the recitation (week 3), create a set of web pages that will allow for the listing and view of employees. In particular the "employee/list" URL should list all employees using their name, and the "employee/detail/X" URL should show all the details of employee with EMP\_NUM equal to X. On the employee list page, link the employee's name to the view URL to see the details of the employee. Create an "index.php" that merely redirects the browser to the employee list.

Sample screenshots are given below:

**Listing employees**

1. [James Ardano](#)
2. [James Blalock](#)
3. [Carlos Coronel](#)
4. [Willa Dexter](#)
5. [Ronald Donelly](#)
6. [Anne Doornberg](#)
7. [Rosemary Edwards](#)
8. [Gerald Grazevski](#)
9. [Arelle Heffington](#)
10. [Jill Herndon](#)
11. [Hermine Jones](#)
12. [Suzanne Jones](#)
13. [Julian Jordan](#)
14. [Ralph Matler](#)
15. [Ronald Okomoto](#)
16. [Ismael Osaki](#)
17. [Henry Ramso](#)
18. [Annelise Ritula](#)
19. [Peter Rob](#)
20. [Elaine Robertson](#)
21. [Rebecca Shebert](#)
22. [Elsa Smith](#)
23. [Melanie Smith](#)
24. [Robert Smith](#)
25. [Robert Smith](#)
26. [Robert Smith](#)
27. [George Smithson](#)
28. [Doreen Stoddard](#)
29. [Weston Teng](#)
30. [Van Thieu](#)
31. [Ross Washington](#)
32. [George Watson](#)
33. [Herman Williams](#)
34. [Kathryn Williamson](#)
35. [Todd Wilson](#)
36. [James Worley](#)
37. [Preston Yukon](#)

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Figure 1: Employee listing. Note that these are in alphabetical order.

## Viewing employee

ID number: 155  
First name: Annelise  
Last name: Ritula  
Middle initial:  
Birth date: May 24, 1957  
Hire date: August 1, 1990  
Job Code: PROF

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Figure 2: Viewing a selected employee. Notice that the dates are nicely formatted.

### Submission instructions

Create a Word document with your solution to the short answer questions. Create a ZIP file containing your project directory for the solution to the programming problem. Follow proper coding conventions (indentation, commenting, etc.) that you would have learned in previous courses.

Submit both the Word document and the ZIP file to the dropbox for the course.