**A. Explorando**

*1. Explore el archivo usando un navegador y un editor. ¿Cuáles son las ventajas de uno u otro?*

Las ventajas de abrirlo en un navegador es que no hay riesgo de que el código se modifique por gente externa o que se dañe o se borre.

Y las ventajas de un editor es que si se quiere hacer cambios se puede modificar.

*2. Describa la información que encuentra en el archivo.*

La información que tenemos son 3 cursos específicos (CS, EE, LING) y cada curso tiene su nombre, su jefe de departamento y la información de las materias de cada departamento.

**B. Consultas iniciales**

*1. ¿De cuáles departamentos se tiene información?*

a) /Course\_Catalog/Department/Title

b) /Course\_Catalog/Department/Title/text()

c) /Course\_Catalog/Department/@Code

*2. ¿Cuál es la información del curso Introduction to Databases?*

a) /Course\_Catalog/Department/Course[@Number="CS145"]

b) /Course\_Catalog/Department/Course[@Number="CS145"]/\*[@\*]/attribute()

c) /Course\_Catalog/Department/Course[@Number='CS145']//\*

*3. ¿Cuántos cursos están detallados? ¿Cuáles son?*

a) /Course\_Catalog/Department/Course/Title

*4) ¿Cuál es el total de inscripciones de los cursos?*

a) sum(/Course\_Catalog/Department/Course/@Enrollment)

*5) ¿De cuáles cursos no se conoce el número de inscritos?*

a) /Course\_Catalog/Department/Course[not(@Enrollment)]/Title/text()

*6) ¿Cuáles cursos son iniciales (no tienen prerrequisitos)?*

a) /Course\_Catalog/Department/Course[not(Prerequisites)]/Title/text()

*7) ¿Cuáles cursos son finales (no son prerrequisitos de ninguno)*

a) /Course\_Catalog/Department/Course[@Number != parent::/Course/@Number and not(@Number=parent::/Course/Prerequisites/Prereq/text())]/Title/text()

*8) ¿Cuáles cursos tienen como instructores al director de su departamento?*

a) //Course[../Chair/Professor/Last\_Name/text() = Instructors/Professor/Last\_Name/text()]/@Number

*9) ¿Cuáles cursos de un departamento tienen el mismo profesor?*

a) //Course[Instructors/Professor/Last\_Name/text() =Instructors/Professor/Last\_Name/text()]/@Number

*10. ¿Cuáles directores de departamento no colaboran en cursos?*

|  |
| --- |
|  |
| 1. /Course\_Catalog/Department/Chair[not(Professor/Last\_Name/text() = parent::\*/Course/Instructors/Professor/Last\_Name/text())]/Professor/Last\_Name/text() |
|  |

**B. Consultas quiz Standford**

*1. Return all Title elements (of both departments and courses). (16)*

/Course\_Catalog//Title

*2. Return last names of all department chairs. (3)*

/Course\_Catalog/Department/Chair/Professor/Last\_Name

*3. Return titles of courses with enrollment greater than 500. (2)*

/Course\_Catalog/Department/Chair/Professor/Last\_Name

*4. Return titles of departments that have some course that takes "CS106B" as a prerequisite. (2)*

/Course\_Catalog/Department/Course[Prerequisites/Prereq/text()= "CS106B"]/Title

*5. Return last names of all professors or lecturers who use a middle initial. Don't worry about eliminating duplicates. (5)*

/Course\_Catalog/Department//(Professor | Lecturer)[Middle\_Initial]/Last\_Name

*6. Return the title of courses that have a cross-listed course (i.e., that have "Cross-listed" in their description). (2)*

/Course\_Catalog/Department/Course[contains(Description/text(),"Cross-listed")]/Title/text()

*7. Return the enrollment of all courses in the CS department. (10)*

/Course\_Catalog/Department[@Code= "CS"]/Course/@Enrollment

*8. Return last names of instructors teaching at least one course that has "system" in its description and enrollment greater than 100. (2)*

/Course\_Catalog/Department/Course[contains(Description/text(),"system") and @Enrollment>100]/Instructors/(Professor|Lecturer)/Last\_Name/text()

*9. Return the title of the course with more than 2 instructors (\*)(1)*

/Course\_Catalog/Department/Course[count(Instructors/\*)>2]/Title

*10. Return course numbers of courses that have the same title as some other course. (Hint: You might want to use the "preceding" and "following" navigation axes for this query, which were not covered in the video or our demo script; they match any preceding or following node, not just siblings.) (2)*

|  |
| --- |
| /Course\_Catalog/Department/Course[@Enrollment>avg(/Course\_Catalog/Department/Course/@Enrollment)]/@Numberavg(/Course\_Catalog/Department/Course/@Enrollment) |

*11. Return the courses numbers of courses that have no lecturers as instructors. (\*)(10)*

/Course\_Catalog/Department/Course[Instructors[not(Lecturer)]]/@Number

*12. Return titles of courses taught by the chair of a department. For this question, you may assume that all professors have distinct last names. (1)*

Course\_Catalog/Department/Course[Instructors//Last\_Name/text()=parent::\*/Chair/Professor/Last\_Name/text()]/Title/text()

*13. Return titles of courses taught by a professor with the last name "Ng" and by a professor with the last name "Thrun". (\*)(1)*

/Course\_Catalog/Department/Course[Instructors[Professor/Last\_Name[text()="Ng"] and Professor/Last\_Name[text()="Thrun"] ]]/Title/text()

*14. Return course numbers of courses that have a course taught by Eric Roberts as a prerequisite. (4)*

/Course\_Catalog/Department/Course[Prerequisites/Prereq/text() = /Course\_Catalog/Department/Course[Instructors/Professor[Last\_Name/text()="Roberts" and First\_Name/text()="Eric"]]/@Number]/@Number

*15. Return last names of instructors teachiing at least one course that has system in its description and enrollment greater than 100.(2)*

/Course\_Catalog/Department/Course[Description[contains(text(),"system")] and @Enrollment >100]/Instructors/(Professor | Lecturer)/Last\_Name

**C. Consultas Propias**

*1) ¿Cuáles cursos tienen prerrequisitos?*

/Course\_Catalog/Department/Course[(Prerequisites)]/Title/text()

*2) El avg del enrollment*

avg(/Course\_Catalog/Department/Course/@Enrollment)

*3) Que departamentos tienen mas de 7 cursos*

/Course\_Catalog/Department[count(Course) < 7]/Title/text()

*4) Que departamentos tienen menos de 7 cursos*

/Course\_Catalog/Department[count(Course) <= 7]/Title/text()

*5) Que cursos tienen un Enrollment mayor a 1000*

/Course\_Catalog/Department/Course[@Enrollment>1000]/Title/text()