

We're looking forward to interviewing you at Course Hero and hope that you are too! In this phase of your interview process we are interested in seeing how you approach technical problem solving, structure code, and the communication of your thoughts and ideas. This coding challenge is a 3-part problem, the first part of which is designed as a take-home exercise. Please use the CoderPad link and follow the instructions. You can choose the language that you are most comfortable working in but we ask that you do your work solely in CoderPad to familiarize yourself with the application at this stage of the interview. We will work together in CoderPad to extend your base program during the next phase of your interview process.

While working on this take-home exercise it's important that you make notes of where you get stuck, how you get unstuck, what sections you refactor and why. This exercise is "open book" so feel free to use online resources while completing your solution.

If you have any questions, please don't hesitate to reach out to your recruiter. Have fun!

Course Selection

On our site, students can input the courses they are taking in any combination of a Department+Course Number followed by Semester+Year. A department is always one or more alphabetic characters, and a course number is always one or more numeric characters. Department and course number can be separated by an optional delimiter. Delimiters are "-", " ", or ":". There is no finite list of departments and course numbers. There is always a space after the Course Number and before Semester+Year. The semester is either an abbreviation or a word; Semester abbreviations are F (Fall), W (Winter), S (Spring), Su (Summer). A Year is either two digits or four digits. Semester could come before Year or Year could come before Semester. Below are some examples of formatting of Department+Course Number, Semester+Year, as well as sample inputs.

Examples of Department+Course Number formats:

- CS111
- CS 111
- CS:111
- CS-111

Examples of Semester+Year formats:

- Fall 2016
- fall 16
- 2016 Fall
- F2016

Examples inputs formats:

“CS111 2016 Fall”

“CS-111 Fall 2016”

“CS 111 F2016”

Part 1: Data Normalization

Write a solution that will identify the Department, Course Number, Semester and Year for a given string, based on the requirements talked about above, and return an object with properties. Focus on covering all input possibilities as well as validating the input. Please consider code readability and performance of the parsing logic of your solution. For this part of the problem assume that your code already has received the input string from the user and you are just processing it.

Any combination of the example inputs for Department + Course Number followed by Semester + Year given above should create an object with the following properties and values:

- Department: CS
- Course Number: 111
- Year: 2016
- Semester: Fall