

Your team should discuss each of the following questions and then write up your answers. Each member of the team who is attending the lecture and contributing to the activity must submit a PDF with the team's answers in AutoLab. All of the team's submissions from come from the same IP address.

1. **[1 point]** Most large systems include many, many modules. While many of those modules interact with each other, there will also be pairs of modules that never interact. Explain why we cannot discuss the level of coupling between the modules that have no relationship with each other.
2. **[2 points]** Describe 2 examples of pairs of modules with low (good) coupling and **briefly** explain how each illustrates low coupling. Your modules can be code-based, but can also be something in real-life. You cannot use an example from the lecture slides.
3. **[1 point]** Explain at least 2 different ways that low coupling makes it easier to reuse a module in future projects.
4. **[1 point]** Beginning students often write "stringly typed" subroutines. These are subroutines that return a string representing the subroutine's outcome – no matter if that outcome is an error, number, list, or something else. The calling subroutine will need to parse this string to understand the result and then use it appropriately. Explain why stringly typed routines are examples of control coupling.
5. **[1 point]** Does improving a module's cohesion mean that it's level of coupling has to change? If yes, explain how the coupling would have to change (including examples to illustrate your point). If no, explain why these measures are not related (including examples to illustrate your point). Answers that do not clearly state a preference automatically earn a 0 on this question.
6. **[1 point]** In a job interview, you are asked if coupling or cohesion is more important. Explain which your team believes is more important to get "right" and include at least 1 example to illustrate this point. Answers that do not clearly state a preference automatically earn a 0 on this question.
7. A team of developers is known as the ~~Backend Boys~~ Backstreet Boys. ~~Brendon~~ Joey, a developer on this team, did not want to write specific modules to add data to each of their database tables. He instead wrote a single module whose parameters include the name of the table to update and a dictionary whose keys are column names and whose values are the data to be added. Answer the following questions about this design choice.
  - a) **[1 point]** What is level of coupling best describes the relationship between the database and the module adding data to the database? Justify why you think that level of coupling is correct.
  - b) **[1 point]** What is level of coupling best describes the relationship between the module adding data to the database and a module which calls it? Justify why you think that level of coupling is correct.
  - c) **[1 point]** What is level of coupling best describes the relationship between the database and a module which calls the function adding data to the database? Justify why you think that level of coupling is correct.