# Per-question rubric

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| **Correct, Efficient Solution** Program is written correctly (it solves the stated problem) in a clear, is easy to understand, uses minimal computer resources (memory, CPU cycles, etc – time and space), and doesn’t contain any extraneous logic or lines of code.  You do not have to provide the absolute most minimal program to get full credit.  Scale adapted from <http://www.csulb.edu/colleges/coe/cecs/views/programs/undergrad/grade_prog.shtml> | | | | |
| 1 point | 2 points | 3 points | 4 points | 5 points |
| The code is almost entirely incorrect | The code is largely incorrect, or uses an approach which is extremely inefficient (when an alternative, more efficient approach could have easily been used instead). | The code is correct in some places and makes reasonably good use of resources. | The code is entirely correct but fails to conserve resources in some important way | The code is correct, and reasonably efficient without sacrificing readability and understanding. |
| **Organization** | | | | |
| 1 point | 2 points | 3 points | 4 points | 5 points |
| Line-by-line explanation, little to no insight into the concepts that are used,  or no discernable organization | Line-by-line explanation, with some insight into the concepts that are used | Thoughtfully organized (such as concept-by-concept) but no specific citations of the solution (i.e., didn’t say where in the program/output a concept is used) | Thoughtfully organized (such as concept-by-concept) with all possible examples in the program/output/etc cited | Thoughtfully organized (such as concept-by-concept) and the program/output/etc selectively, intelligently cited.  (Generally, you only need to explain something the first time it happens, etc) |
| **Technically Accurate Explanation (Demonstrates Knowledge Of Concepts)** This item only pertains to the explanation. It is assumed that the solution itself (the program source code / program output / etc.) is correct. | | | | |
| 1 point | 2 points | 3 points | 4 points | 5 points |
| Explanation is inaccurate. | Explanation is mostly inaccurate. | Explanation is inaccurate on several important details. | Explanation is mostly accurate. | Explanation is accurate  (with the possible exception of a small number of minor details). |
| **Thorough And Concise Explanation** | | | | |
| 1 point | 2 points | 3 points | 4 points | 5 points |
| Explanation doesn’t address any of the important concepts in the solution | Explanation addresses one or more of the important concepts in the solution, but omits more than 50% of the important concepts | Explanation addresses all of the important concepts, but the concepts are not explained thoroughly. | Explanation addresses all of the important concepts, and most of the concepts are explained thoroughly. | Explanation addresses all of the important concepts, all the concepts are explained thoroughly, and  no extraneous material is included. |
| **Spelling And Grammar** | | | | |
| 1 point | 2 points | 3 points | 4 points | 5 points |
| Substantial problems with spelling and grammar throughout, uses limited / repetitive vocabulary | Many problems with spelling and grammar, uses limited / repetitive vocabulary | Limited problems with spelling and grammar, uses limited / repetitive vocabulary | Limited problems with spelling and grammar | Very few problems (or no problems at all) with spelling and grammar |

REALLY IMPORTANT NOTE: It’s impossible to write out everything that makes an explanation good or all the ways to do an explanation badly. While the following is intended to guide your work it is not necessarily a comprehensive list of the only items that you’ll be evaluated on. In other words, the instructor reserves the right to dock points for a poorly written explanation, even if that explanation (somehow) manages to meet all of the above criteria.