This assignment calls for you to provide a substantive response (500 – 750 words each) to a set of questions directed to the development of PL/SQL code. Each question: (a) calls for demonstration of higher levels of cognition (i.e. analysis, synthesis, and evaluation), (b) is complex in nature, and (c) requires a clear and concise, explicit expository response. The formulation of your response should follow a logical presentation (e.g. introduction, analysis & discussion, and summary & conclusion(s)), be developed with strong referential integrity to academic sources, and strictly follow APA guidelines.

The assignment will be graded on structure, content, and format (APA). Cumulatively, this assignment will be 10% of your total grade.

## 1. Due Date: May 25th, 2008

Software development methodology is extremely important in developing robust applications that meets the needs of clients. Methodologies help the software development team build information systems that solve business needs in a timely manner. Through the years there have been various software processes such as the waterfall and spiral methods to the more recent agile methods such as extreme programming and SCRUM. Research and study the goals of software development methodologies.

In general, what is a software development methodology, and why do we need them? Briefly describe the Agile Manifesto and differentiate between other software processes.

## 2. Due Date: June 8th, 2008

As we begin to develop PL/SQL code in this course, coding standards and conventions need to be studied. Coding conventions improve the readability and maintainability of the software. Most software is not maintained by the original author, so having guidelines to write code is beneficial to the development team. Research and study coding standards and conventions in regards to application development.

Why do we need coding standards and what are some of the challenges in implementing these standards? What type of standards should be implemented in an organization?

**3. Due Date: June 22$^{nd}$, 2008**

SQL statements can be embedded within the application code (also known as embedded SQL), such as Visual Basic and Java, and sent to the database for processing. An alternative to hard coding SQL statements within the application is calling stored database procedures. Oracle offers standard packages that contain procedures that developers can utilize, or the developer can create customized procedures. It is important to think about application design and the performance of the information system at each tier. Research the use of embedded SQL within an application environment and how it differs from stored database procedures.

What are the advantages and disadvantages of using embedded SQL within an application? What advantages do stored database procedures bring to the application environment? Which solution is more efficient in terms of performance?