320 Final Exam Study Guide

1. What is dynamic binding?
   1. Dynamic binding refers to the ability of an object-oriented system to defer the data typing of objects until run time. This would allow a message such as compute employee pay to be interpreted differently at run time by ‘salaried employee’ and ‘hourly employee’ objects.
2. What is the Law of Demeter?
   1. The law minimizes the number of objects that can receive messages from a given object.
3. What is the purpose of normalization?
   1. Normalization is a process that optimizes relational data storage for storage efficiency and for minimization of update anomalies.
4. How does a model meet the requirements of third normal form?
   1. To begin, the model must be in 1st normal form where every row is unique and there are no repeating groups (i.e. repeating attributes). Then the model will be normalized to 2nd normal form where the partial dependencies (PD) are removed. Lastly, 3rd normal form is achieved when all transitive dependencies are removed (TD).
5. Explain three important user interface design principles?
   * 1. **Layout** – the interface should be a series of areas on the screen that are used consistently for different purposes.
     2. **Aesthetics** – interfaces should look inviting and should be easy to use.
     3. **Minimize effort** – interface should be simple to use.
6. What are three fundamental parts of most user interfaces?
   * 1. **Navigation mechanism** – the way the user gives instructions to the system and tells it what to do.
     2. **Input mechanism** – the way in which the system captures information.
     3. **Output mechanism** – the way the system provides information to the user or to other systems.
7. Compare and contrast the three types of interface design prototypes.
   1. **Storyboards** are pictures/drawings of the interface that shows how the system flows from one interface to another.
   2. **HTML prototypes** are web pages that show the fundamental parts of the system.
   3. **Language prototypes** create models of the interface in the actual language that will be used to implement the system.
8. What six criteria are helpful to use when comparing the appropriateness of computing alternatives? (ch11)
   * 1. Cost of the infrastructure
     2. Cost of development
     3. Ease of development
     4. Interface capabilities
     5. Control and security
     6. Scalability
9. Compare and contrast three basic approaches to training.
   1. **Classroom training** – This is the traditional approach in which a number of people are trained simultaneously by one instructor
   2. **One-on-one training** – this puts one trainer with one student at a time.
   3. **Computer-based training** – This uses a CD or Web-based training program delivered to students as needed.
10. What are constraints? What are three different types of constraints?
    1. Constraints are limitations on the range of values or activities that are acceptable within business problem domain. The three types are pre-conditions, post-conditions, and invariants.
11. What is the most popular kind of database today? Provide three examples of products that are based on this database technology.
    1. Relational databases are the most popular today. Three examples are:
       1. **MS Access**
       2. **Oracle**
       3. **MS SQL Server**
12. How can different national or organizational cultures affect the management of an information systems development project?
    1. Different national or organizational cultures can affect the development of an information systems development project because some of the development may be outsourced a situation where there is no need to quote an expert in such a culture the act of quoting the expert is an act of respect.