Review for Test 2
C308 - System Analysis and Design

Review of Test 1
System Development Life Cycle
   Planning, Analysis, Design, Implementation, Testing, Maintenance
Information System building blocks and the pyramid model.
   - People, Data, Processes, Interfaces, Network, Technology
Data Modeling:
   - Entity Relationship Table
   - Entity Attribute Table
   - Entities - Attributes and Rules
   - Entity Relationship Diagram
     - Cardinality, Ordinality
       - Entities, attributes, domain, keys, associative entities
     Understanding and dealing with Many to Many relationships
CASE Tools (Upper and Lower)
Gantt and PERT charts
Structured Techniques
   - Top down design, structured programming, analysis, design, testing, data and process modeling.
   - Software crisis and its relationship with the structured analysis and design techniques.
   - Creeping Commitments (how they should be handled)
   Benefits of networking and client/server design
Feasibility check points
   - Technical, operational, Economic and Schedule feasibility
   What can be done if the project is determined to be infeasible in its present situation?
Entropy
   What are triggers?
   What are Deliverables?
Joint Application Development (JAD)
Prototyping (advantages and disadvantages)
Purpose of candidate matrix
Process Modeling:
   - Data Flow Diagraming (Processes, Data Flows, Data Stores, Sources and Sinks)
   - Functional Decomposition
   - Event Response List
   - Context level DFDs
   - Event Handlers
   - System Diagram (combination of event handlers)
   - Detailed DFDs per event handler
   - Typical errors in DFDs (Black hole, Gray hole, Miracle)
1NF, 2NF, 3NF
Designing proper user interfaces (Sources and Sinks in your event handlers
Database management systems vs. file systems
Understanding relationships (1:1, 1:M, M:M) and how they can be implemented as a relational databases.
Introduction to Relational Databases, VB.Net and ADO.Net
Input Design
   - Basic elements of Object Orientation (Encapsulation, Inheritance, Polymorphism)
   - Structured Analysis and Design, Information Engineering, Object Oriented Analysis and Design
The Software Crisis
UML (not included)
Ethical Issues (not included)