Chapter 9 Review Questions

1. **What are the goals of the traditional system development life cycle approach?**

* More Discipline: by establishing standards for processes and documentation
* More Modularized: Developers decompose the software applications in interconnected but independent modules
* Higher Reliability and Fewer Errors: inspections performed at every development stage and at every level of system decomposition to catch errors as early as possible
* More Efficient Use of Resources: By imposing a time and cost control system to decrease the tendency for system development efforts to incur cost and time overruns

1. **Refer to the list of features and functions of 4GLs in Figure 9-3. Briefly explain each**

* Database management systems (DBMS) : It’s the heart of a 4GL, it is used for storing formatted data records as well as unformatted text, graphics, voice, and perhaps even video
* Data dictionary: Stores the definitions of the various kinds of data
* Nonprocedural language: Means that the commands can occur in any order, rather than the sequence required by the computer
* Interactive query facilities: Allows the commands to be used to retrieve data form files or database in ad hoc manner
* Report generator: Allows to take data from a source and use it to produce a report
* Selection and sorting: Allows to select specifics fields and sorting allows you to sort base on a specific field
* Screen formatter: allows the user to design a screen by simply typing in the various data input field names and the locations where they are to appear or by choosing graphics from a menu
* Word processor and text editor: Used for the production of any sort of printable material
* Graphics: used to present information with symbols, icons and pictures rather than text, like a GUI
* Data analysis and modeling tool: allows to create a data model by applying formal data modeling techniques
* Library of macros: Is a collections of macro definitions that can be used by all the assembler language programs in an installation
* Programming interface: Is the specific method by which a programmer can make requests
* Reusable code: It’s the code that can be used again to add new functionalities with slight or no modification
* Reusable software components and repositories: creating new software applications from existing components rather than designing and building from scratch
* Software development library: The collection of software, documentation, tools and procedures used to develop and support software
* Backup and recovery: Backup means to make copies of data, and recovery is using those copies to restore the data after a data loss event
* Security and privacy safeguards: standards and mechanism to protect valued information
* Links to other DBMS: Allows to transfer information among other DBMS

1. **What are the main characteristics of the prototyping approach?**

It’s created quickly, it’s a quick and inexpensive process of developing and testing a trial balloon, its purpose is to test out assumptions about users’ requirements or the design of the application or even about the logic of a program. It is an iterative process

1. **Define the components of a computer-aided software engineering system**

* An information repository: Form the heart of a CASE system and is its most important element, it stores and organizes all the information needed to create, modify, and develop a software system
* Front-end tools: Are used in the phase leading up to coding, front-end tools generally store the meaning of items depicted in the diagrams, also it uses automatic design analysis for checking the consistency and completeness of a design
* Back-end tools: Generally mean code generators for automatically generating source code
* Development workstation: The more powerful it is the better, because it’s used to handle all the graphical manipulations needed in CASE-developed systems

1. **What is unique about DuPont Cable Management Service’s use of CASE?**

They had RIPP (Rapid iterative production prototyping) and by using it they could take as few as 120 days to complete a project

1. **What are the basic characteristics of an ERP system?**

It’s a package software that integrate the majority of business’s processes, processes the majority of an organizations transactions, allow access to data in “real time”

1. **Why have so many ERP implementation projects failed?**

Due to overruns, and also because of factors common to other IS projects, such as the system’s large size and complexity

1. **Describe Colgate-Palmolive’s approach to implementing their ERP**

Their goal was to reduce the annual cost of the supply chain by $150 million and to standardize business processes. They started setting up a prototype environment in the United States, they were convinced that the SAP R/3 modules for sales and distribution, materials management, finance, and HR would provide the functionality and flexibility it needed worldwide, they also decided to use Oracle’s relational DBMS and Sun hardware platform running the Solaris operating system.

1. **What is a platform inter-organizational system? Give few examples**

It’s a system that provides the infrastructure for operation of a business ecosystem, a region, or an industry, some example are SABRE, Sony(PS3), Nintendo(wii), Microsoft(XBOX), Speedpass

1. **In a nutshell, what does HKEx’s AMS/3 system do?**

Allows brokers to enter orders in a new way accessing AMS/3 trading host through an “open gateway” so data to flow back and forth between a broker’s back-office system and AMS/3 giving back-office system the data to perform market analysis not feasible before, also individual investors can make online inquiries or order request using their mobile phone or the internet, and now I can even offer customized services such as bundled products or distinctive trading processes

1. **Describe HKEx’s testing procedure for AMS/3**

They conducted three levels of system testing, the first was single-component testing, then came partial integration test between components to catch as many interconnection problems as possible, third was integration testing, which tested end-to-end processes, they also had recovery procedures for all the system-failures scenarios that people could dream up. They opened up an AMS/3 testing environment every Saturday for six months for the brokers to perform end-to-end testing, in addition they inspected broker’s offices and only allowed those that passed the tests to move into production mode, and finally HKEx also held marketwide network tests to test the system fully loaded

1. **What is java and why is it important?**

Java is a fairly open language that has evolved from client-side programming to being a server-side application development standard, and it is important because provides an alternative to building online business system from scratch or buying packaged online business systems because of their multivendor platform capability and pre-built, reusable components

1. **What are five steps in building a Web Service?**
2. Expose the Code: A currency conversion Web service is created by exposing the currency conversion code of a credit card processor by encapsulating it in XML wrapper
3. Write a Service Description: A description of the currency conversion service is written using WSDL (Web Services Definition Language)
4. Publish the Service: The currency conversion service is then published by registering it in a UDDI (Universal Discovery, Description, and Integration) registry
5. Find a Currency Conversion Web Service: The currency conversion service can now be found by, say, a pricing Web service
6. Invoke a Web Service: The pricing service can now bind to and invoke the selected currency conversion service by sending it an XML message in a SOAP envelope asking it to, say, convert US $1,250.25 into Australian dollars
7. **What does Jonathan Sapir foresee with regard to Web Services?**

Sapir believes on the possibility of end-user development of Web Services, he thinks that people would develop their own personal programs if they had the tools and he foresees people computerizing their part of the business on their own with user-friendly tools, thereby shifting computerization from top-down to bottom-up.