Chapter 9
Expression, Text, Hypertext, and Database Management.

1. Describe the main features of each of the following knowledge management techniques:

   a. **Expression Management.**
      During decision making, ad hoc calculations such as those done in expression management can be beneficial.
      Calculators: rudimentary computers that do expression management.
      Often integrated in tools that do other kinds of knowledge management.
      Simple procedural, descriptive, linguistic knowledge.
      
      - **Objects of interest.**
        variables, functions, macros, expressions (can include other three)
      - **Methods for processing them.**
        defining existence of variables, macros, functions
        store/load, list, view, change delete them
        specify expression in terms of them (plus littorals and operators)
        - for immediate evaluation
        - to preserve for later evaluation

   b. **Text Management.**
      The most widely used of KM techniques.
      During decision making, decision makers have occasion to prepare and refer to various documents.
      
      - **Objects of Interest.**
        documents representing any of the 6 types of knowledge
        comprised of textual passages, boxes, control indicators
      - **Methods for processing them.**
        documents as a whole, lines of text, works
        ** not related to type of knowledge documented (text processors not able to reason with the reasoning knowledge that might be there) **

   c. **Hypertext Management.**
      Decision maker may want to electronically navigate through multiple conceptually related documents.
      Hypertext gives a way for linking them and navigating through them.
      
      - **Objects of Interest.**
        Hyperdocument
        - documents with embedded markers
        - links relating them
        - map
        Can represent any of six types of knowledge.
      - **Methods for processing them.**
        specify documents
        specify links by a matching pair of markers
        navigation among documents by choosing desired markers

   d. **Database Management.**
      Highly structured knowledge representations and flexible retrieval.
Primarily for descriptive knowledge
Multiple approaches of which the relational is most widely used

*Objects of Interest*
- Databases - Tables, Data Dictionaries
  distinction between table structure and content

*Methods for Processing them*
- Table processing
  - operates on structure
  - operates on content
    - record at a time
    - multiple records
- Relational algebra versus relational calculus (SQL)
  - Relational algebra - Procedural series of steps to get to desired results. Creates new tables from existing tables (intermediate tables)
  - Relational calculus - Non-procedural language that tells it “what” to do not “how” to do it.

2. Explain the distinctions among these techniques in terms of the objects used for knowledge representation and the methods used to process those objects.

SEE ANSWER TO QUESTION ONE