Q.5) what are different ways of evaluation of expression?

→ (1) Manual Evaluation :
- follow arithmetic rules and order of operations to compute the values step-by-step.
- Break down and simplify complex expressions before evaluating them.

(2) Symbolic Evaluation
- Use algebric rules to rearrange and simply expressions without computing numerical results.
- Replace variables with known values or simpler expressions to aid evaluation.

(3) Numerical Evaluation :
- Apply techniques like Newton's method for evaluating expressions that are difficult to solve analytically.
- use computer algorithms to handle real numbers and manage precision & rounding.

(4) Graphical Evaluation :
- visualize the expression by plotting it on a graph to understand its behavior.
- find solutions by identifying where the graph of an expression intersects another graph.

(5) programmatic evaluation :
- write and execute code in programming languages to evaluate expressions.
- Use libraries or tools designed to parse & evaluate mathematical expressions.

⑥ Matrix evaluation:
- Evaluate expressions involving matrices through operations like addition, multiplication & finding determinants.

⑦ Logical Evaluation:
- Use truth tables & logical operators (AND, OR, NOT) to evaluate logical expressions.

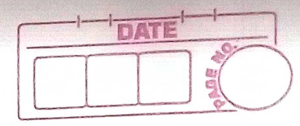
Q.6) Define functional dependency. List various types of functional dependency.

⟹ • functional dependency:
- is a relationship between two attributes in a relation.
- where one attribute's value uniquely determines the value of another attribute.

•Types:
① Full functional dependency:
- in which one attribute determines another attribute. & removing any part of the determinant would break the dependency.

② partial functional dependency:
- non-prime attribute is functionally dependent on part of a candidate key.

③ Transitive functional dependency:
- A dependency where one non-prime attribute is determined by another non-prime attribute through a chain of functional dependencies.



④ Multivalued dependency:

- when a functional dependency exist between two sets of attributes in a relation.