Types of Flowcharts in Software Development

Flowcharts are a visual representation of the sequence of steps and decisions needed to perform a process. In software development, different types of flowcharts are used to document, analyze, and design various aspects of a program or system. Here are the main types of flowcharts used in software development:

1. System Flowchart

Purpose: Illustrates the overall flow of data within a system, showing how input data is transformed into output.

Components: Includes input/output devices, processing steps, storage locations, and the flow of data between these components.

2. Process Flowchart

Purpose: Details the steps involved in a specific process within a system.

Components: Consists of process steps, decision points, and the sequence of actions.

3. Data Flow Diagram (DFD)

Purpose: Shows how data moves through a system, from input to processing to output.

Components: Includes data sources, data processes, data storage, and data destinations.

4. Program Flowchart

Purpose: Describes the flow of control in a program, showing the sequence of operations and decisions.

Components: Comprises of symbols representing different types of actions such as start/end,

process steps, decisions, and input/output operations.

5. Decision Flowchart

Purpose: Focuses on the decision-making process within a system or program.

Components: Highlights decision points and the paths taken based on different conditions.

6. Swimlane Flowchart

Purpose: Divides the flowchart into lanes to show who is responsible for each part of the process.

Components: Includes swimlanes for different departments or roles and the processes they are responsible for.

7. Workflow Flowchart

Purpose: Represents the sequence of tasks and activities in a business or technical process.

Components: Includes steps, decision points, parallel tasks, and the flow of activities.

8. Cross-Functional Flowchart

Purpose: Similar to swimlane flowcharts but emphasizes the interaction between different departments or teams.

Components: Contains lanes or sections for different functional areas and the flow of processes across them.

9. High-Level Flowchart

Purpose: Provides a broad overview of a process or system, highlighting the major steps and

relationships.

Components: Includes only the main steps without detailed breakdowns.

10. Detailed Flowchart

Purpose: Offers an in-depth look at a process, detailing every step and decision point.

Components: Incorporates all possible actions, decisions, inputs, and outputs.

Symbols Commonly Used in Flowcharts

Oval: Start/End

Rectangle: Process Step

Diamond: Decision

Parallelogram: Input/Output

Arrow: Flow of Control

Benefits of Using Flowcharts

Clarity: Provides a clear and visual representation of processes.

Documentation: Helps in documenting the process flow for better understanding and communication.

Problem Solving: Identifies bottlenecks and inefficiencies in processes.

Design: Aids in designing and planning systems and processes.