Flowchart Elements

Basic Shapes

1. Rectangle (Process Block)

- **Usage:** Represents a process, operation, or action step.
- **Example:** Data processing, calculations, algorithm steps.

2. Rounded Rectangle (Start/End Block)

- **Usage:** Used for start and end points in a flowchart.
- **Example:** "Start Program" or "End Process."

3. Ellipse (Terminal or Start/End Block)

- **Usage:** Alternative to rounded rectangles for start and end points.
- **Example:** "Begin Operation" or "Exit."

4. Square

- **Usage:** Rarely used in standard flowcharts, but can represent specialized process steps.
- **Example:** Algorithm sub-processes, computation.

5. Circle

- **Usage:** Connector for breaking complex flowcharts into separate parts.
- **Example:** "Go to Step X" where the process continues elsewhere.

6. Diamond (Decision Block)

- **Usage:** Represents a decision point, typically leading to different paths based on conditions.
- **Example:** "Is user logged in?" $\rightarrow$ Yes/No paths.

7. Parallelogram (Input/Output Block)

- **Usage:** Represents input (user input, data collection) or output (displaying results).
- **Example:** "Enter username" (input), "Display result" (output).

8. Hexagon (Preparation Block)

- **Usage:** Indicates a setup or initialization step before the main process.
- **Example:** Variable initialization, environment setup.

9. Triangle (Merge or Extract Block)

- **Usage:** Used for merging multiple paths into one or extracting a flow into multiple paths.
- **Example:** "Merge parallel threads into a single process."

10. Cylinder (Database/Storage Block)

- **Usage:** Represents data storage or databases.
- **Example:** "Save to SQL Database," "Retrieve user data."

11. Cloud

- **Usage:** Represents external cloud-based storage or internet-related processes.
- **Example:** "Fetch data from cloud service."

12. Document

- **Usage:** Represents a report, document, or file being used or generated.
- **Example:** "Generate PDF Report."

13. Internal Storage

- **Usage:** Represents internal memory storage operations.
- **Example:** "Load data into RAM."

14. Cube

- **Usage:** Symbolizes a data structure, database, or logical storage unit.
- **Example:** "Store metadata cube."

15. Step (Manual Operation)

- **Usage:** Represents a manual step requiring human intervention.
- **Example:** "Manually approve document."

16. Trapezoid (Manual Input)

- **Usage:** Indicates user input required in the process.
- **Example:** "User enters information in form."

17. Tape (Magnetic Storage Media)

- **Usage:** Represents older storage methods such as magnetic tapes.
- **Example:** "Archive log files on tape storage."

18. Note (Annotation Block)

- **Usage:** Used to add extra comments or explanations in a flowchart.
- **Example:** "System pause due to timeout event."

19. Card (Paper-Based Processing)

- **Usage:** Represents card-based input, such as punch cards in legacy systems.
- **Example:** "Process batch job using card input."

20. Callout

- **Usage:** Provides additional information, like tooltips or extra guidance.
- **Example:** "System executes a fallback routine if API request fails."

21. Actor

- **Usage:** Represents a human or external entity interacting with the system.
- **Example:** "User initiates login process."

22. OR (Logical OR Gate)

- **Usage:** Represents a condition where one or more inputs can lead to the next step.
- **Example:** "If A or B is true, proceed to the next step."

23. AND (Logical AND Gate)

- **Usage:** Represents a condition where all conditions must be true to proceed.
- **Example:** "If A and B are true, execute the next step."

Flow and Connection Elements

24. Arrow

- **Usage:** Indicates process flow from one step to another.
- **Example:** "Move to the next process."

25. Curve

- **Usage:** Represents a flow path with a curved transition.
- **Example:** "Loop back to retry step."

26. Bidirectional Arrow

- **Usage:** Shows interactions between two steps where data flows both ways.
- **Example:** "Client-Server communication."

27. Dashed Line

- **Usage:** Represents a non-primary flow or optional connection.
- **Example:** "Alternative path based on user choice."

28. Line (Connector Line)

- **Usage:** Connects related elements in the flowchart.
- **Example:** "Reference link between separate processes."

29. Connector

- **Usage:** Represents a jump between different sections of a complex flowchart.
- **Example:** "Go to Subprocess A."

30. Bidirectional Connector

- **Usage:** Represents a direct interaction where two processes influence each other.
- **Example:** "API calls and response handling."
