

## What Is a Flowchart? Text Version

**Note:** In a flowchart, there are often “decision” blocks that require a decision from the user. Often these are phrased as questions, which make it clear that a decision is required. Decision blocks that are not phrased as a question are preceded by “Decision:” to make it clear that the text belongs to a decision block.

### Title: Algorithm Flowchart

Top of chart begins: “Start”

1. “S equals 12”
2. Process: “enter p”
3. “Is p even?”
  - a. If “Yes” to even, then “p equals p plus 1”. Then to “Is p prime?”
  - b. If “No” to even, then “Is p prime?”
    - i. If “Yes” to prime, then “Is p less than S?”
      1. If “Yes” to p less than S, then “S equals S minus p”. Then to “p equals p plus 2”. Then to “Is p even?”
      2. If “No” to p less than S, then “S equals S minus 1”. Then to “Does S equal 0?”
        - a. If “Yes” to S equals 0, then “output p”. Then “Stop”.
        - b. If “No” to S equals 0, then to “p equals p plus 2”. Then to “Is p even?”
    - ii. If “No” to prime, then “p equals p plus 2”, loop back to “Is p even?”

### Title: Sales Process Flowchart

Top of chart begins: “Customer purchase order”

1. “Sales order”
2. “POP decision: pick, order, or produce?”
  - a. If “Pick” then “Create pick ticket”. Then “Pick up items from current inventory”. Then loop to “Box and package the items” in #3.
  - b. If “Order” then “Determine order quantity”. Then “Create purchase order and send”. Then “Receive items”. Then optional line to “Assemble or manufacture items”. Then loop to “Box and package the items” in #3.
  - c. If “Produce” then “Determine quantity”. Then “Create a work order”. Then “Assemble or manufacture items”. Then loop to “Box and package the items” in #3.
3. “Box and package the items”
4. “Create packing slip and invoice”
5. “Ship to customer”. End.

### Title: Database Flowchart

Top of chart begins: “Start”

1. “New search process”

2. "Set index to 1; set found to false"
3. Decision: "While found equals false and not at end of array"
  - a. If "Yes", then to Decision: "If item equals search"
    - i. If "Yes" to item equals search, then "Location equals index". Then "Found equals true". Then loop back to #3.
    - ii. If "No" to item equals search, increase index by 1. Then loop back to #3.
  - b. If "No", then to Decision: "If found equals true".
    - i. If "Yes" to found equals true, then "Item found". End.
    - ii. If "No" to found equals true, then "Item not found". End.

### **Title: User Registration Flowchart**

Top of chart begins: "New user"

1. "User configuration"
2. Decision: "Allow user registration"
  - a. If "No", then "Display 'registration form unavailable'"
  - b. If "Yes", then "Display 'registration form available'"
    - i. Then "New user account activation".
    - ii. "User activated".
    - iii. "User sent email confirmation".
      1. If "No reply" to confirmation, then "Account not activated". End.
      2. If "Reply" to confirmation, then "Account activated". Administrator activates account. End.

### **Title: Business Flowchart**

Note to students: This final type of flowchart includes five "lanes" that refer to tasks completed by people in five different roles: shipping officer, buying agent, management, vendor, and receiving agent. This process is somewhat linear, with information being passed between lanes. You will not need to create a flowchart with this level of complexity in this course.

Top of chart begins: "Shipping officer prepares requisition".

1. Shipping officer sends requisition to Buying Agent.
2. Buying Agent "Prepares request for quote".
3. Decision: "Needs review?"
  - a. If "Yes", then passes quote to Management.
    - i. Management "Evaluates RFQ".
    - ii. Decision: "Approved?"
      1. If "Yes", then passes RFQ to Vendor. Jump to step #4.
      2. If "No", then loops back to beginning. Shipping officer must prepare new requisition.
  - b. If "No", then Buying Agent passes quote to Vendor. Jump to step #4.
4. Vendor "Reviews RFQ".
5. Decision: "Decide to quote?"
  - a. If "Yes", then jump to step #6.
  - b. If "No", then loops back to beginning. Shipping officer must prepare new requisition.
6. Vendor "Revises quote".

7. Vendor passes quote to Buying Agent.
8. Buying Agent "Reviews quote".
9. Decision: "Quote acceptable?"
  - a. If "Yes", then Buying Agent "Prepares order." Jump to step #9.
  - b. If "No", then Buying Agent sends response to Vendor. Loop back to step #6.
10. Buying Agent "Prepares order".
11. Buying Agent passes order to Vendor.
12. Vendor "Reviews order".
13. Decision: "Order acceptable?"
  - a. If "Yes", then Vendor "Fulfills order". Jump to step #14.
  - b. If "No", then Vendor sends revised quote to Buying Agent. Loop back to step #8.
14. Vendor passes fulfilled order to Receiving Agent.
15. Receiving Agent "Receives ordered items".
16. Receiving Agent "Makes payment" and sends to Vendor.
17. Vendor "Receives payment".

### **Title: Swimlane Flowchart**

Note to students: This final type of flowchart includes four "lanes" that refer to tasks completed by people in four different roles: customer, sales, management, and credit department. Each role has its own "lane," and the visual version of the flowchart passes information back and forth between the lanes. For clarity in the text version, the process for each individual "lane" is detailed below. In this flowchart, the beginning and ending points all exist in the Sales lane, which is the second lane in the chart. You will not need to create a swimlane flowchart for this course.

#### **Customer Lane**

1. Receives "Sale Call" from Sales lane.
2. "Customer buys product".
3. Completes "Credit form".
4. "Credit form" passed to Sales lane.

#### **Sales Lane**

1. Begin: "Sales call" to Customer.
2. Receives completed "Credit form" from Customer lane.
3. Creates "Order entry".
4. Completes "Order form".
5. Passes "Order form" to Credit Department lane.
  - a. If "Bad Credit" received from Credit Department lane, then Sales lane outputs "Sale not approved". End.
  - b. If "Terms approved" received from Credit Department lane, then Sales lane outputs "Sale approved". End.

#### **Management Lane**

1. Creates "Credit criteria".
2. "Credit criteria" is passed to Credit Department lane for use in "Credit check" decision.
3. Receives "Credit issued report" from Credit Department lane, when applicable.

#### **Credit Department Lane**

1. Receives "Credit criteria" from Management lane.
2. Receives "Order form" from Sales lane.
3. Decision: "Credit check":
  - a. If "Bad credit", then passes "Sale not approved" to Sales lane.
  - b. If "OK" then to Decision: "Check accounts receivable balance".
    - i. If "High balance", pass back to "Credit check".
    - ii. If "No high balance", then Calculate credit terms.
      1. Create "Credit issued report."
      2. Pass "Credit issued report" to Management lane.
      3. Pass "Terms approved" to Sales lane.