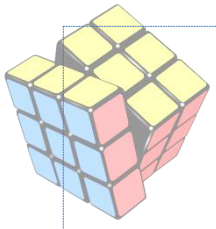


Problem Solving Process

Class 9

Lab 6

UNITED TRUST

bdeducation
Bangladesh Digital Education Research Limited
সময়ের পাঠশালা

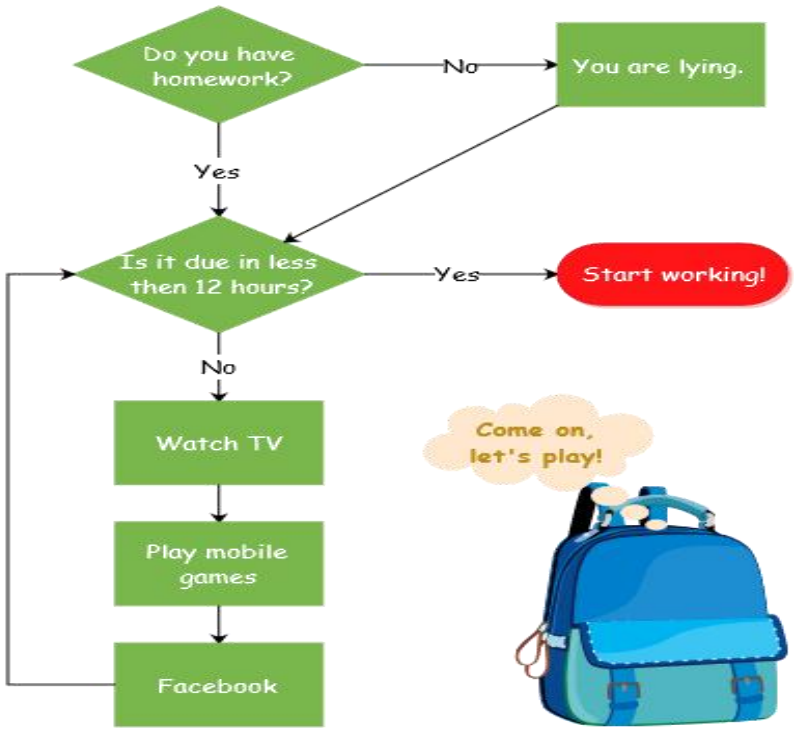
Lab Objectives:

- Flowchart

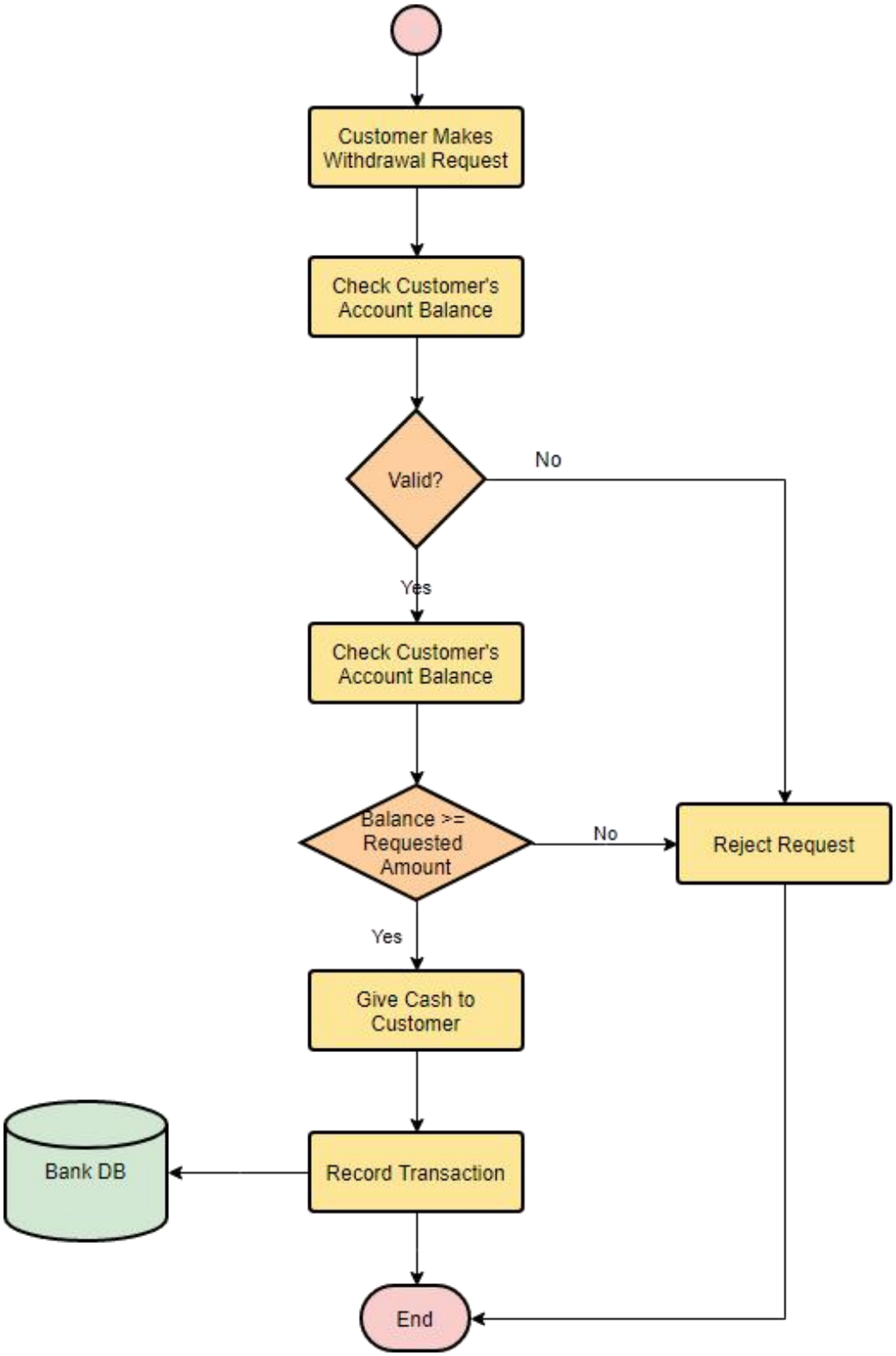
Flowchart

A flowchart is a picture of the separate steps of a process in sequential order that represents an algorithm, work flow or process, showing the steps as boxes of various kinds, and their order by connecting them with arrows.

Flowcharts are used in analyzing, designing, documenting or managing a process or program in various fields for illustrating a solution model to a given problem.



A flowchart is a diagram constructed from connected shapes representing a process or a plan. Here is an example of a simple flowchart illustrating the process of withdrawing cash.

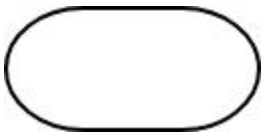


Flowchart Symbols

In a standard flowchart, different shapes have different conventional meanings. The meanings of some of the more common shapes are as follows:

Terminator

The terminator symbol represents the starting or ending point of the system.

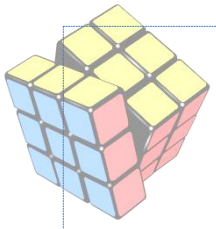


Process

A box indicates some particular operation.

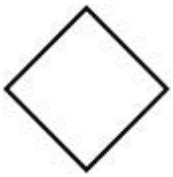
Document

This represents a printout, such as a document or a report.



Decision

A diamond represents a decision or branching point. Lines coming out from the diamond indicates different possible situations, leading to different sub-processes.

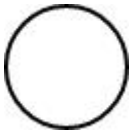


Data

It represents information entering or leaving the system. An input might be an order from a customer. An output can be a product to be delivered.

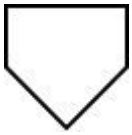
On-Page Reference

This symbol would contain a letter inside. It indicates that the flow continues on a matching symbol containing the same letter somewhere else on the same page.



Off-Page Reference

This symbol would contain a letter inside. It indicates that the flow continues on a matching symbol containing the same letter somewhere else on a different page.

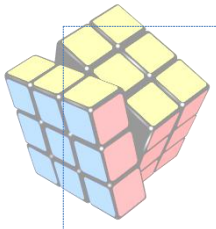


Delay or Bottleneck

Identifies a delay or a bottleneck.

Flow

Lines represent flow of the sequence and direction of a process.



When to Draw Flowchart Diagram?

Using a flowchart has a variety of benefits:

i. It helps to clarify complex processes.

ii. It identifies steps that do not add value to the internal or external customer, including: delays; needless storage and transportation; unnecessary work, duplication, and added expense; breakdowns in communication.

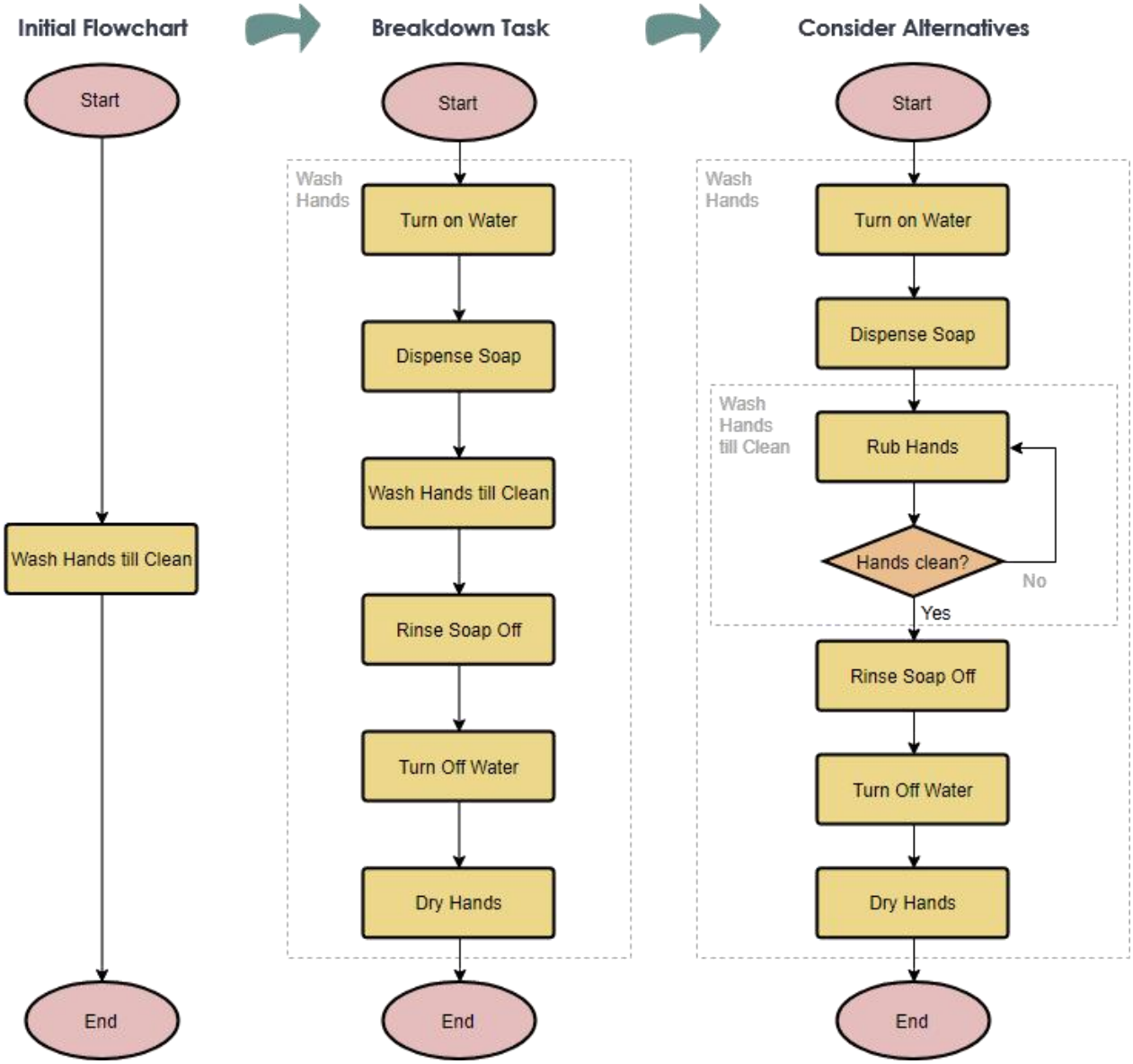
iii. It helps team members gain a shared understanding of the process and use this knowledge to collect data, identify problems, focus discussions, and identify resources.

iv. It serves as a basis for designing new processes.

How to draw a Flowchart Diagram?

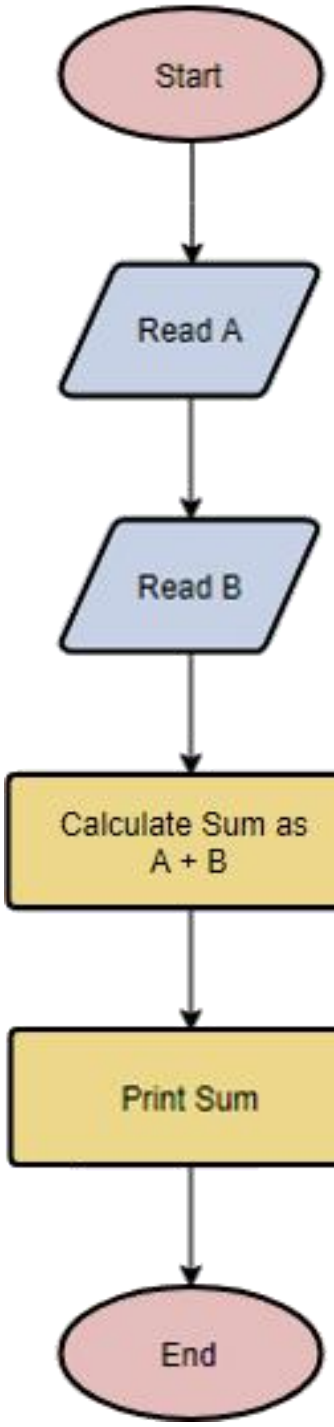
1. How do you get from a complex task to an organized flowchart describing how to do it?
2. Start with a flowchart containing just the task.
3. Now break it down into smaller, more specific steps in another flowchart.
4. Then, consider any possible exception in the flow, if so, add decision node for the alternative paths.
5. Keep on repeating this process until you've reached steps that are simple enough for everyone to fully understand it.

Flowchart Example – Hand Washing Example



Flowchart Example – Simple Algorithms

Find the sum of 529 and 256



Start

A = 529

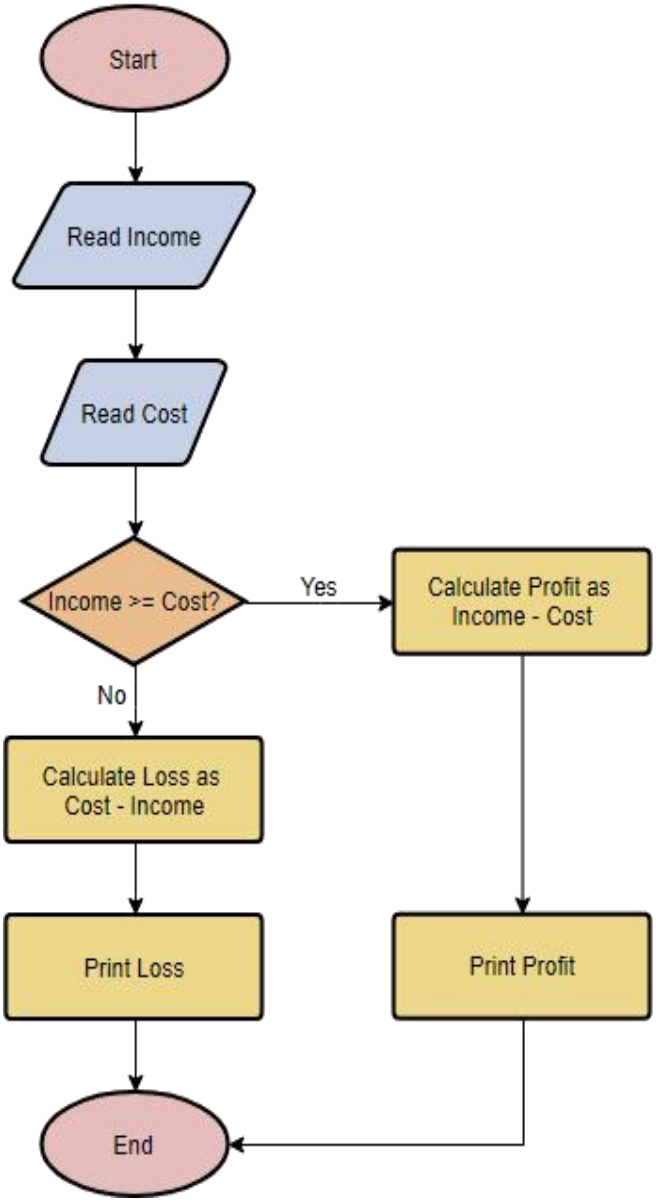
B = 256

Sum = 529 + 256

Sum = 785

End

Flowchart Example - Calculate Profit and Loss



Find the profit/loss when income = 1,000, cost = 800

Start

Income = 1,000

Cost = 800

1,000 > 800? (Yes) **Profit = 1,000 - 800**

Profit = 200

End

Flowchart Example - Make a Toast