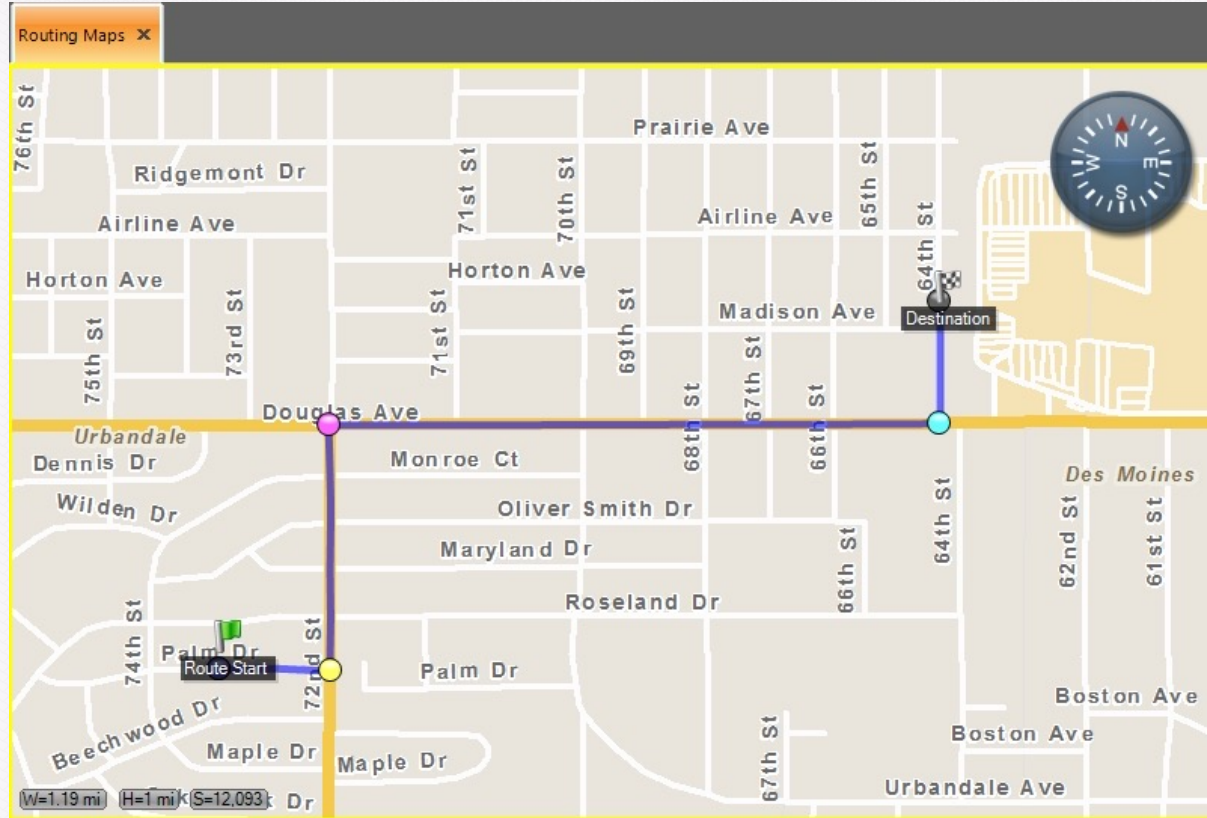# Week 05

Flowchart

Prepared by: **Leangsiv HAN**

15th March 2024

Last Week
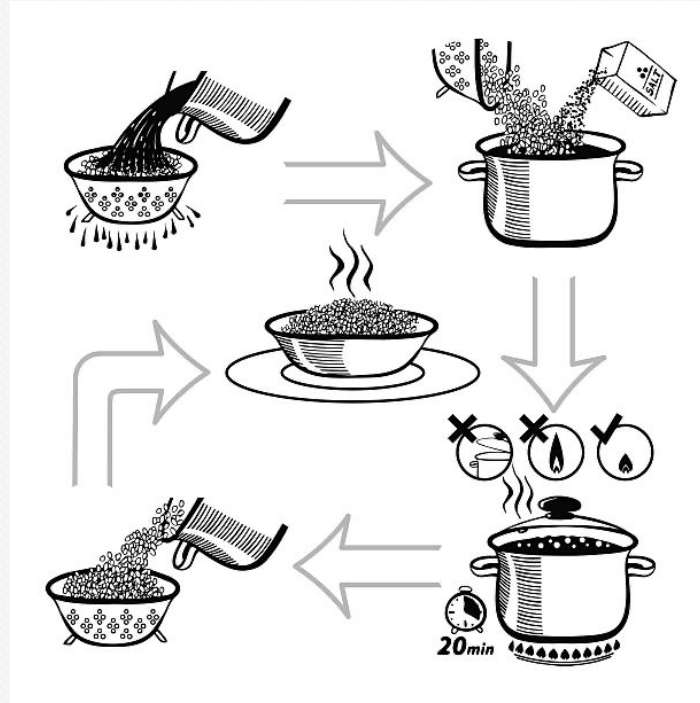
You have learned about:

❑ The definition of input and output.

❑ Non-formatted input and output.

❑ Formatted input and output.
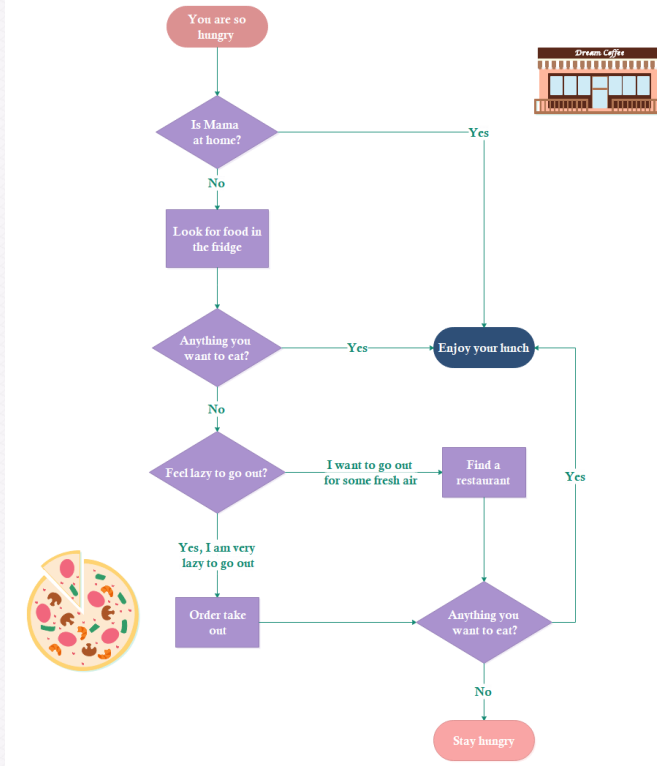
Let's get started with this image!

How about this image?

How to cook rice?

Last Image!

What Should I Eat for Lunch on Sunday?

Learning Objectives

By the end of this lesson, you will be to:

❑ Define what a flowchart is.

❑ Identify flowchart symbols.

❑ Demonstrate flowchart drawing techniques.

❑ Follow the rules for creating flowcharts.

What is a Flowchart?

- A **flowchart** is a diagram (= simple plan) that shows the stages of a

  process. *(Ref. Cambridge Dictionary)*

- A **flowchart** is a diagrammatic representation of a *sequence of logical*

  steps of a program.

- It visually represents the sequential flow of operations or decisions in

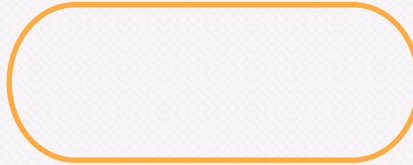 a program, algorithm, or workflow using symbols and arrows.

Flowchart Symbols

There are **6 basic symbols** commonly used in Flowchart such as:

1. Terminal
2. Input/Output
3. Process
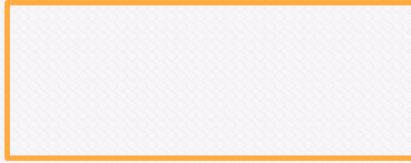4. Decision
5. Connector
6. Control Flow

1. Terminal

o   Indicates the *starting or ending* of the algorithm.

o   We draw a terminal symbol and write **START** inside it to indicate the start of the flowchart.

o   Similarly, we draw a terminal symbol and write **STOP** inside it to indicate the end of the flowchart.

2. Input/output
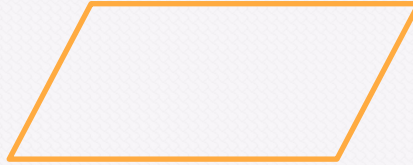
o Use for **Input/Output (I/O)** operation i.e., taking input and showing output.

3. Process

o Indicates any **type of operations** like initialization, calculation, arithmetic, logical, relational, etc.
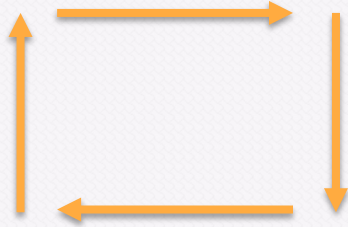
4. Decision

o Use for asking questions that can have either **TRUE or FALSE (YES or NO)** as an answer.

o Example: Are you online?

=> The answer can be either YES or NO.

5. Connector

o Connectors are used to *connect breaks* in the flowchart.

o If a flowchart *takes more than one page*, then to connect the flowchart between pages we use the connector.

5. Control Flow

o This shows the *direction of flow*.

o Flow lines in a flowchart illustrate the precise *sequence of instruction execution*, with *arrows indicating the direction of flow between steps*.
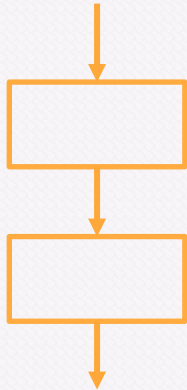
Flowchart Rules

➢ The flowchart is generally **drawn from top to bottom**.

➢ **All boxes** of flowcharts must be **connected with an arrow**.

➢ All flowcharts **start with a Terminal or Process symbol**.

➢ **Decision symbols have 2 exit points**, one for YES (TRUE) and another for NO (FALSE).
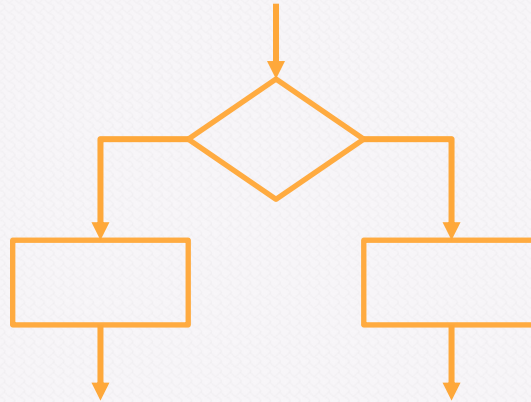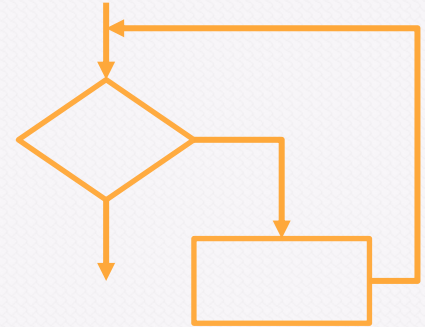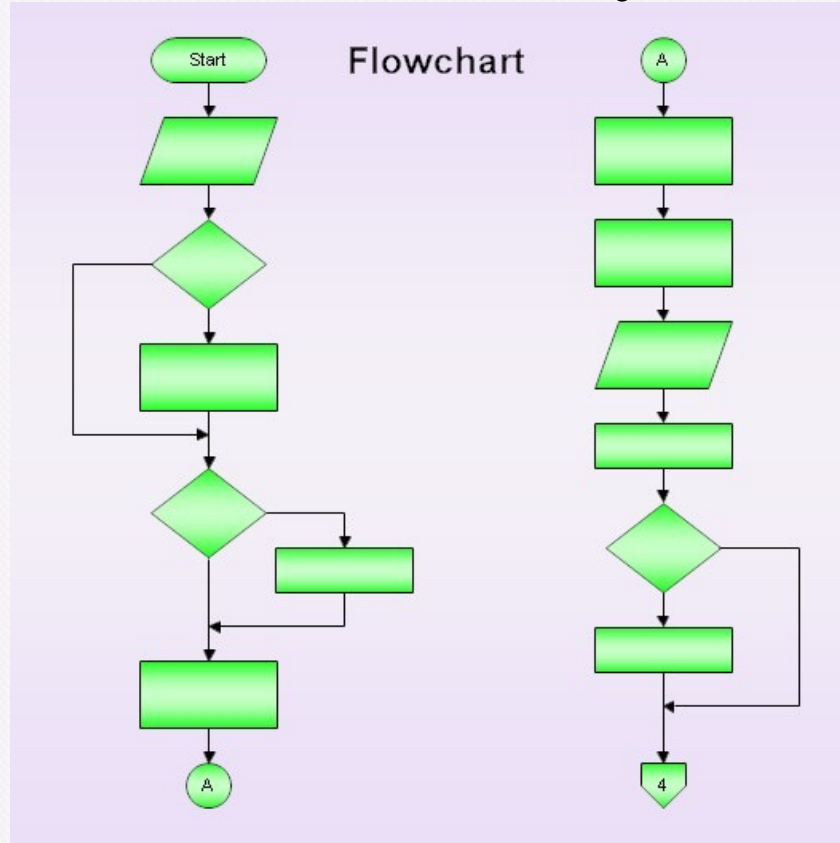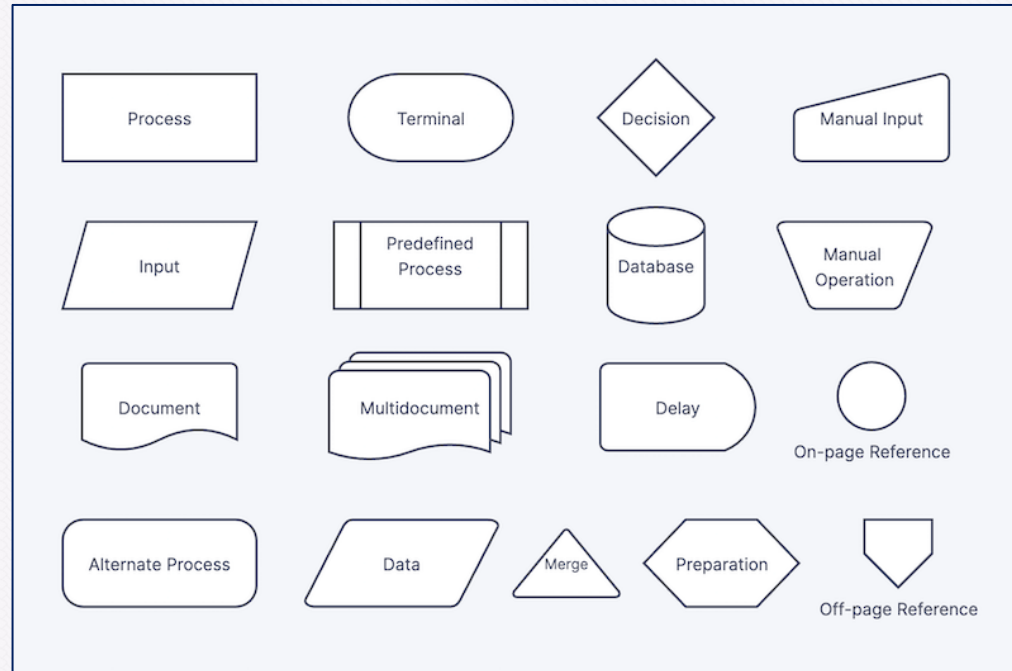
Usage of Flowchart

Sequence

Conditional

Loop

How to connect from one symbol to others?

Self-study

❖ Explore more symbols of the flowchart.

Self-study

🌟 What is **PseudoCode**?
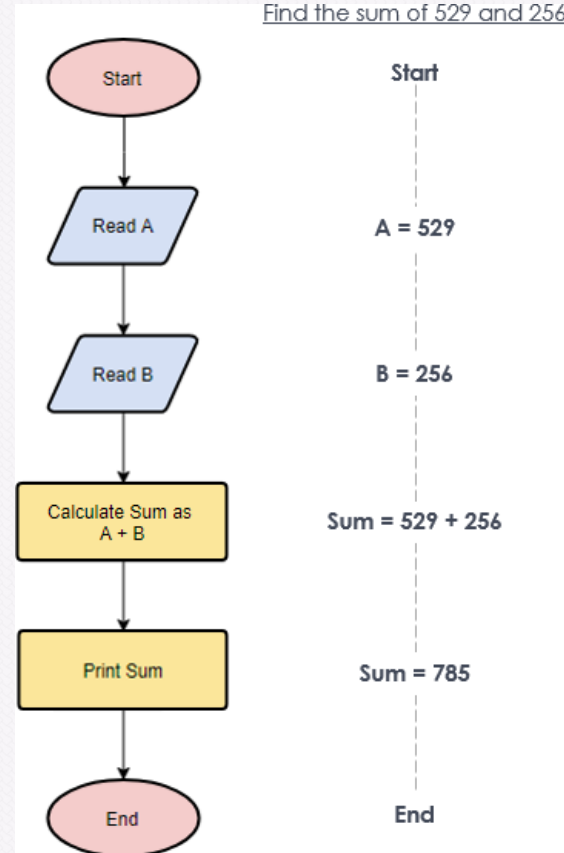

For more details,
go to Geeksforgeeks website: (Click Me)

Example 1

Draw a flowchart to calculate the sum of two numbers.

Find the sum of 529 and 256

Start

Read A — A = 529

Read B — B = 256

Calculate Sum as A + B — Sum = 529 + 256

Print Sum — Sum = 785

End

Example 2

Draw a flowchart to input a number and check if they are Odd or Even.
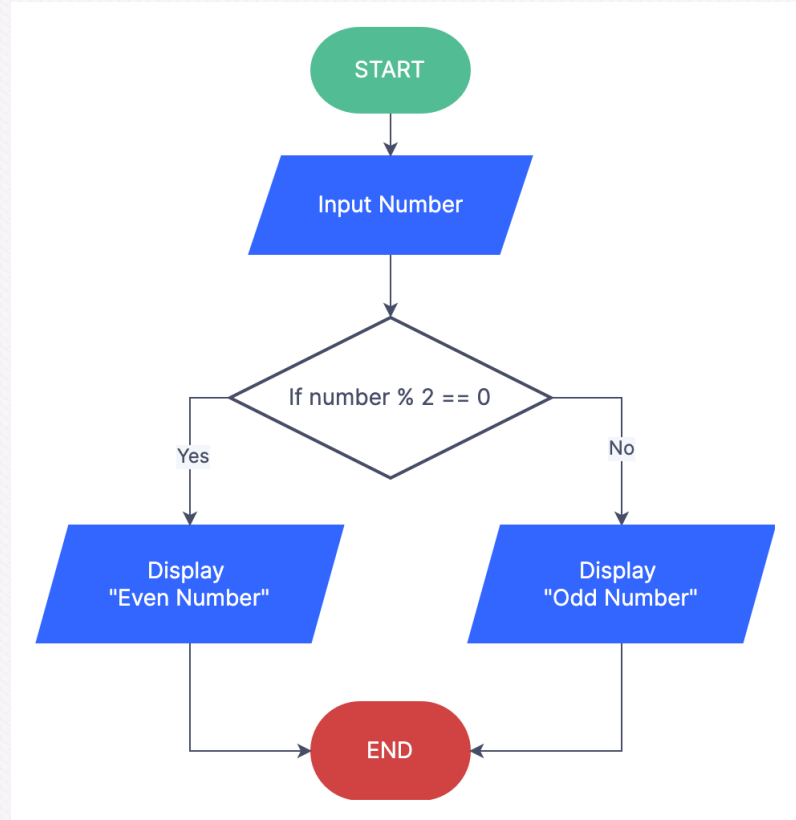
Explore more:

- Flowchart Tutorial (with Symbols, Guide and Examples) *(Click Me)*
- Examples of flowcharts in programming *(Click Me)*
- Flowchart Exercise *(Click Me)*
- A Complete Guide on Flowchart Connectors *(Click Me)*
- Flowchart In C Programming: Guide & Example *(Click Me)*

Key Takeaways

You are now able to:

- ✓ Define what a flowchart is.

- ✓ Identify flowchart symbols.

- ✓ Demonstrate flowchart drawing techniques.

- ✓ Follow the rules for creating flowcharts.

References

➢ *Flowchart elements*. (n.d.). Online Tutorials, Courses, and eBooks Library |

      Tutorialspoint. https://www.tutorialspoint.com/programming_methodolo

      gies/programming_methodologie   s_flowchart_elements.htm

➢ *Introduction*. (n.d.). dyclassroom | Have fun learning :-).

      https://dyclassroom.com/flowchart/introduction

Thank you !

Questions or Feedbacks?
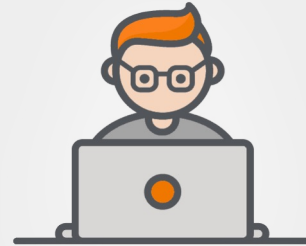
Contact Me via:

✉ leangsiv.han@cadt.edu.kh

t @leangsiv

in leangsivhan