FLOWCHARTS AND PROBLEM-SOLVING

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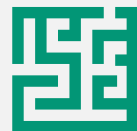
Topics

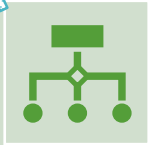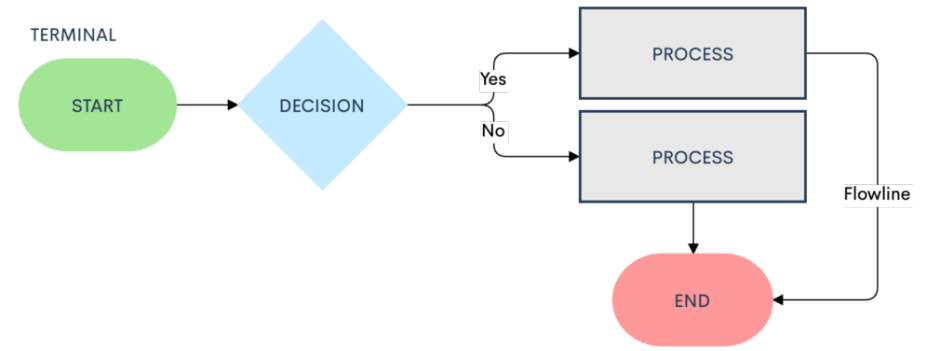Flowcharts and types

Flowchart Elements,

Problem-Solving Through Flowcharts

Flowcharts:

A flowchart is a visual representation of a process or algorithm, using symbols and arrows to show the flow of steps.

Flowcharts are commonly used in programming, engineering, business, and other fields to help communicate complex processes.

Flowcharts can be created using software tools or drawn by hand, and can range from simple to highly detailed.

Flowcharts in Software Development:

Flowcharts provide a visual representation of the software development process, making it easier to understand and communicate.

They help identify potential issues and errors in the software development process, allowing for early intervention and correction.

Flowcharts can be used to improve collaboration between team members, as everyone can see and understand the process being used.

They help ensure consistency in the software development process by providing a standardized framework for development.

Flowcharts can be used to create documentation that can be used for future reference, troubleshooting, or training.

They can help save time and resources by identifying areas where the process can be streamlined or improved.

Flowcharts can be used to demonstrate the software development process to stakeholders, such as clients or management, helping to build trust and confidence in the development process.

Types of Flowcharts:

Simple Flowchart: A simple flowchart can be used to show the steps involved in a process, such as the steps for making a cup of tea.

Programming Flowchart: A programming flowchart can be used to show the logic of a program or algorithm, such as the steps involved in a sorting algorithm.

Business Process Flowchart: A business process flowchart can be used to show the steps involved in a business process, such as the steps involved in hiring a new employee.

Decision-Making Flowchart: A decision-making flowchart can be used to show the steps involved in making a decision, such as whether to buy a new car or repair an old one.

Network Flowchart: A network flowchart can be used to show the flow of data through a network, such as the steps involved in sending an email.

Quality Control Flowchart: A quality control flowchart can be used to show the steps involved in ensuring the quality of a product or service, such as the steps involved in inspecting a car before it is sold.

Troubleshooting Flowchart: A troubleshooting flowchart can be used to show the steps involved in identifying and resolving issues, such as the steps involved in diagnosing a computer problem.
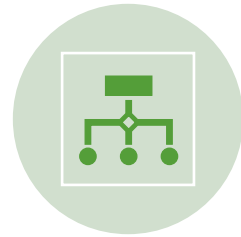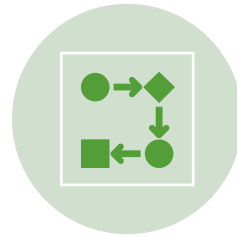
FLOWCHART ELEMENTS
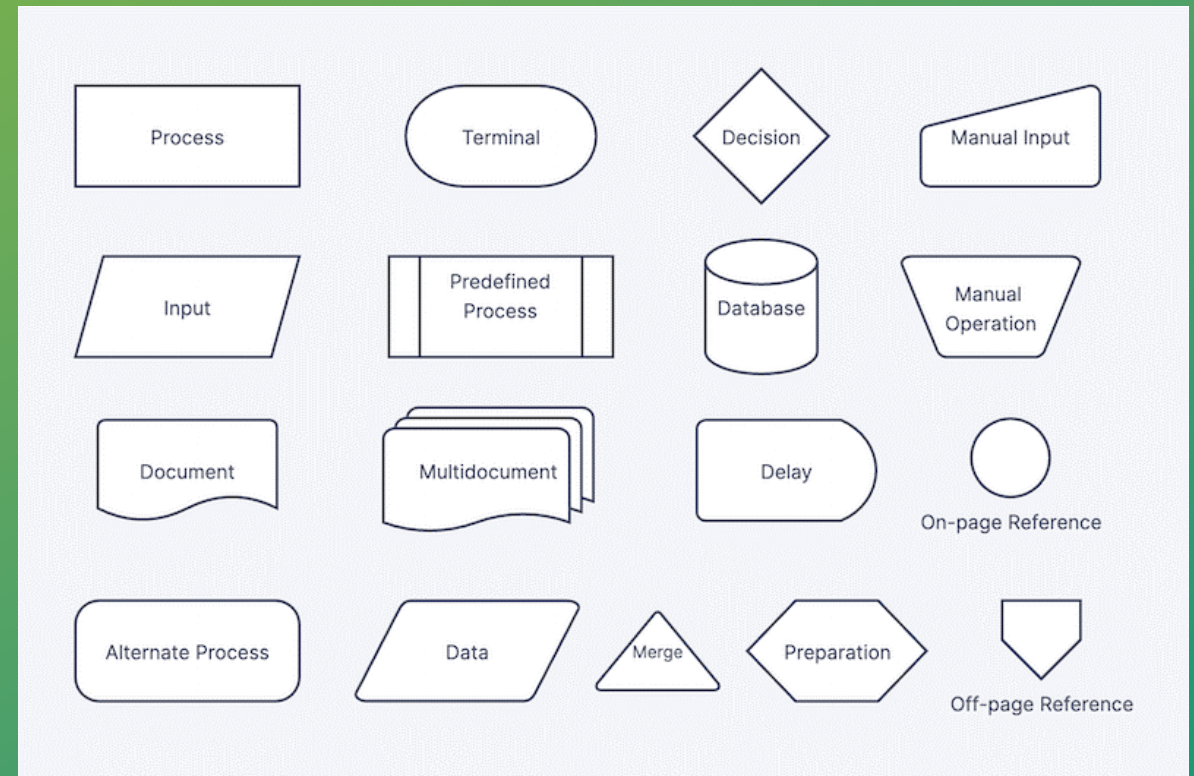
Flowchart Elements
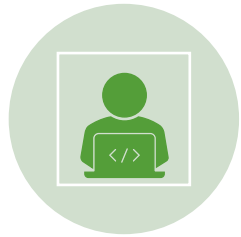
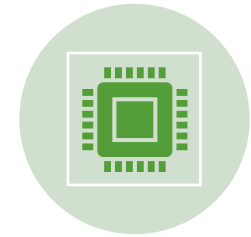**START/END: INDICATES THE BEGINNING AND END OF THE PROCESS OR ALGORITHM.**

CONNECTOR: INDICATES THE FLOW OF THE PROCESS OR ALGORITHM TO ANOTHER PART OF THE CHART.

PROCESS: REPRESENTS A STEP OR ACTION TO BE TAKEN IN THE PROCESS.

DECISION: REPRESENTS A DECISION POINT IN THE PROCESS, WHERE A YES/NO OR TRUE/FALSE CHOICE IS MADE.
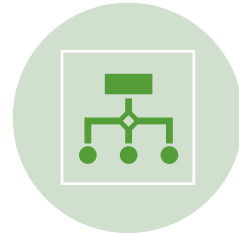
INPUT/OUTPUT: REPRESENTS THE INPUT OR OUTPUT OF DATA OR INFORMATION IN THE PROCESS.
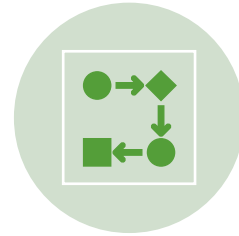
Flowchart Elements

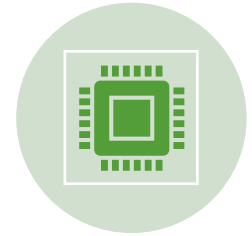|				
ANNOTATION / COMMENT SYMBOL: INDICATES ADDITIONAL INFORMATION REGARDING A STEP IN A PROCESS..	PREDEFINED PROCESS SYMBOL: SHOWS NAMED PROCESS WHICH IS DEFINED ELSEWHERE.	ON-PAGE CONNECTOR SYMBOL ARE PAIRS OF ON-PAGE CONNECTER ARE USED TO REPLACE LONG LINES ON A FLOWCHART PAGE.	OFF-PAGE CONNECTOR SYMBOL: AN OFF-PAGE CONNECTOR IS USED WHEN THE TARGET IS ON ANOTHER PAGE. READ OUR FLOWCHART CONNECTOR GUIDE FOR MORE INFORMATION ON HOW ON-PAGE AND OFF-PAGE CONNECTORS WORK.	DELAY SYMBOL: ANY DELAY PERIOD THAT IS PART OF A PROCESS

Comments

Flowchart Elements

ALTERNATE PROCESS SYMBOL: AN ALTERNATE TO THE NORMAL PROCESS STEP. FLOW LINES TO AN ALTERNATE PROCESS BLOCK IS USUALLY DASHED.
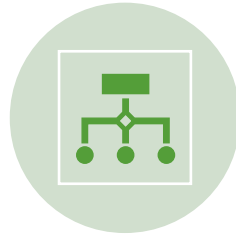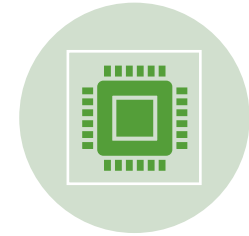
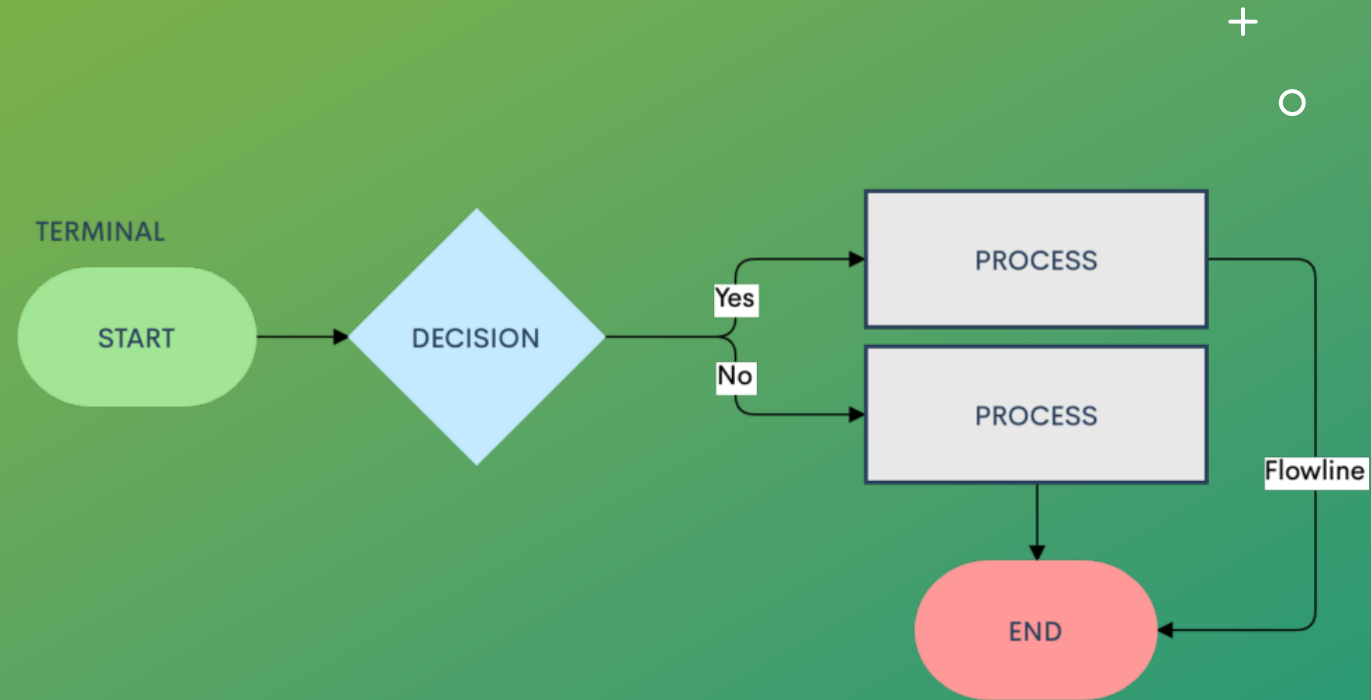DATA SYMBOL: DATA INPUT OR OUTPUT
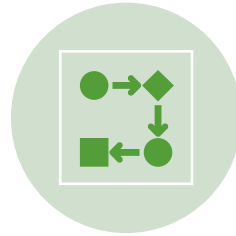
DOCUMENT SYMBOL: A DOCUMENT

MULTI-DOCUMENT SYMBOL: MULTIPLE DOCUMENTS

DISPLAY SYMBOL: A MACHINE DISPLAY

MOST COMMON FLOWCHART SYMBOLS

TERMINAL

START

DECISION

Yes

No

PROCESS

PROCESS

Flowline

END

Problem-Solving Through Flowcharts

Define the problem and the desired outcome: Before you begin to create a flowchart, it's important to clearly define the problem you're trying to solve and the outcome you want to achieve.

Break down the problem into smaller steps: Once you have defined the problem, break it down into smaller steps. This will make it easier to create a flowchart and to identify potential solutions.

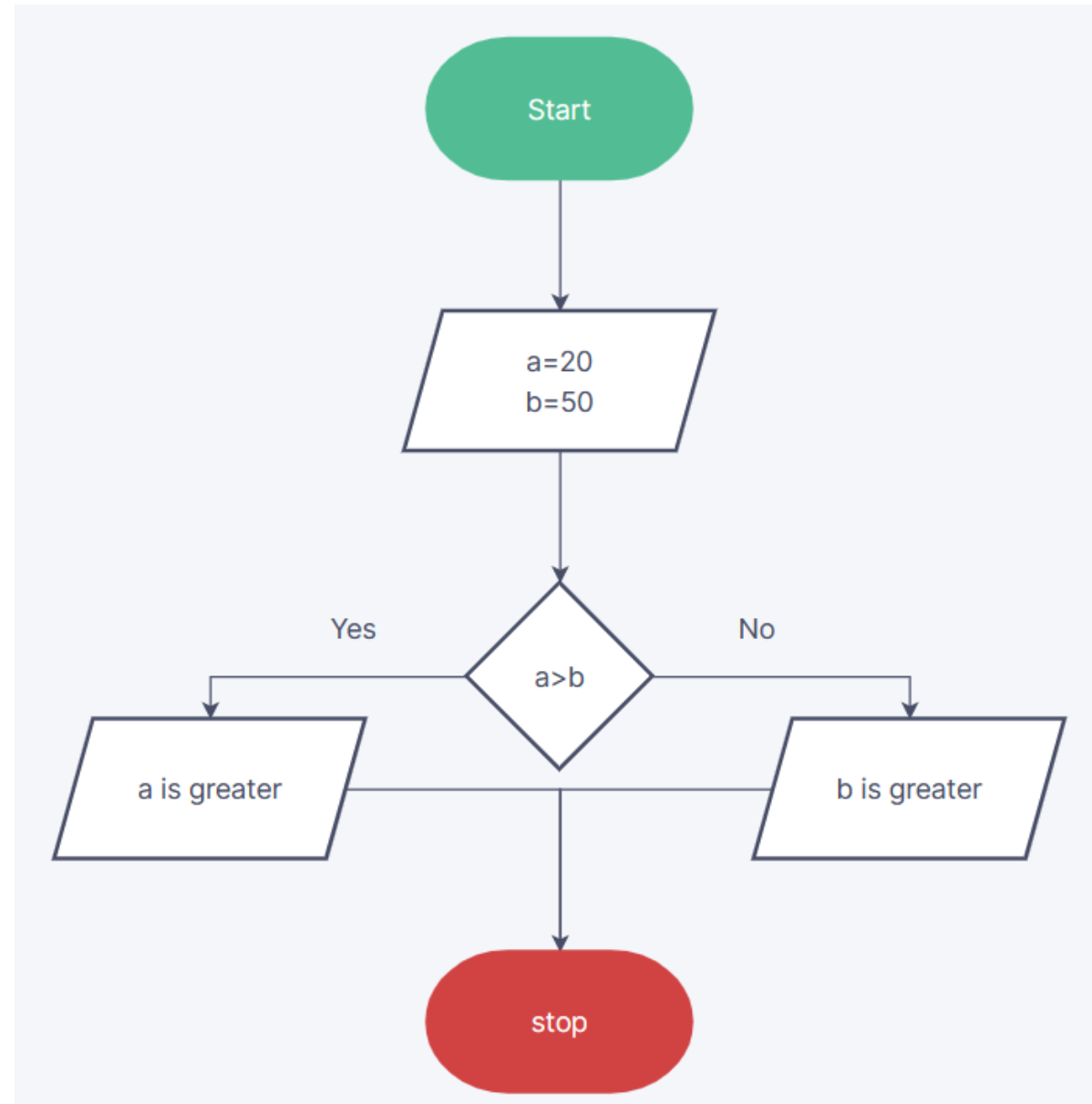Map out each step in the flowchart using the appropriate symbols:

Test the flowchart: Once you have created the flowchart, test it by following each step to ensure that it produces the desired outcome.

Refine the flowchart: Based on testing and feedback, refine the flowchart as needed.
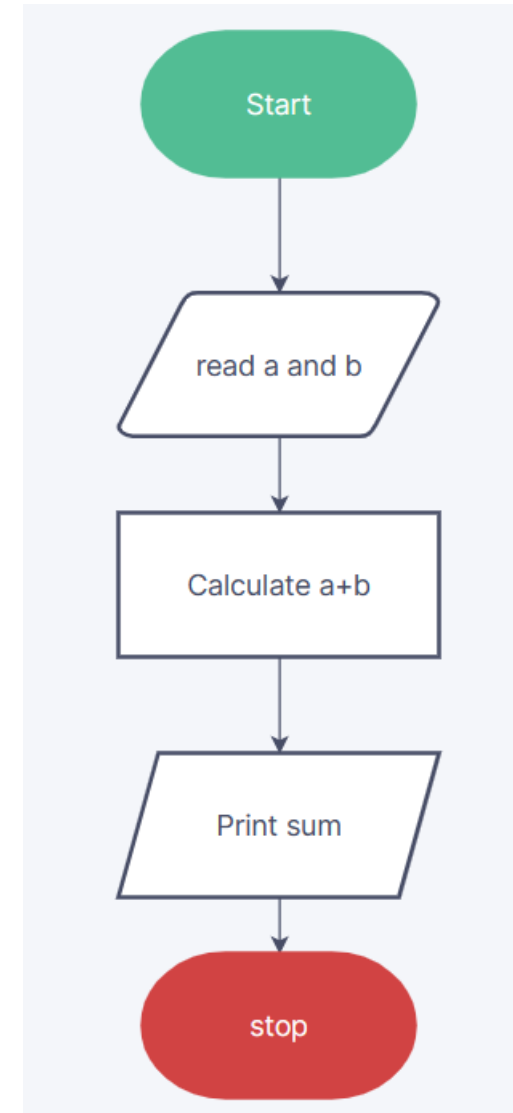
Flowchart Examples:
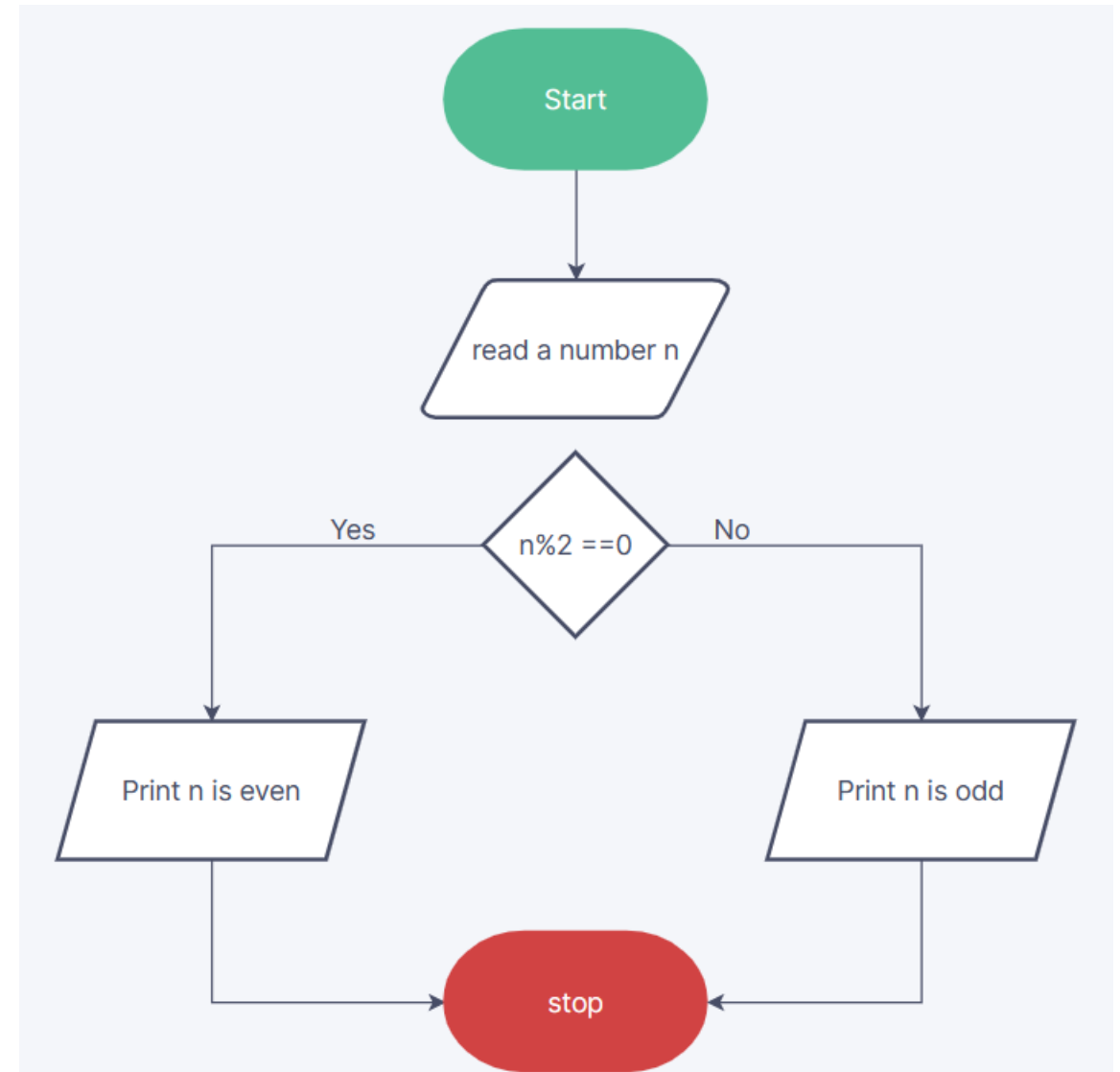
Find the Greatest of Two Numbers

Flowchart Examples:

Find the sum of Two Numbers

Flowchart Examples:

Find whether a number is even or odd

Online Flowchart tools

 https://app.zenflowchart.com/

 Untitled Diagram - diagrams.net

QUESTIONS?