

Problem Solving With Computational Thinking

Session-3



CLARUSWAY©
WAY TO REINVENT YOURSELF

IF - ELSE IF - ELSE

This keyword is used if a certain condition has to be met for the upcoming block to be executed. For example:

```
IF you are happy      If you are tired
    Then smile         Then rest
ENDIF                 else if you are stressed
                       Then relax
                       else
                       Keep working
```

As you can see we also use indentation in order to declare that "smile" is being executed **inside** the if statement above it.

IF - ELSE IF - ELSE

This keyword is used if a certain condition has to be met for the upcoming block to be executed. For example:

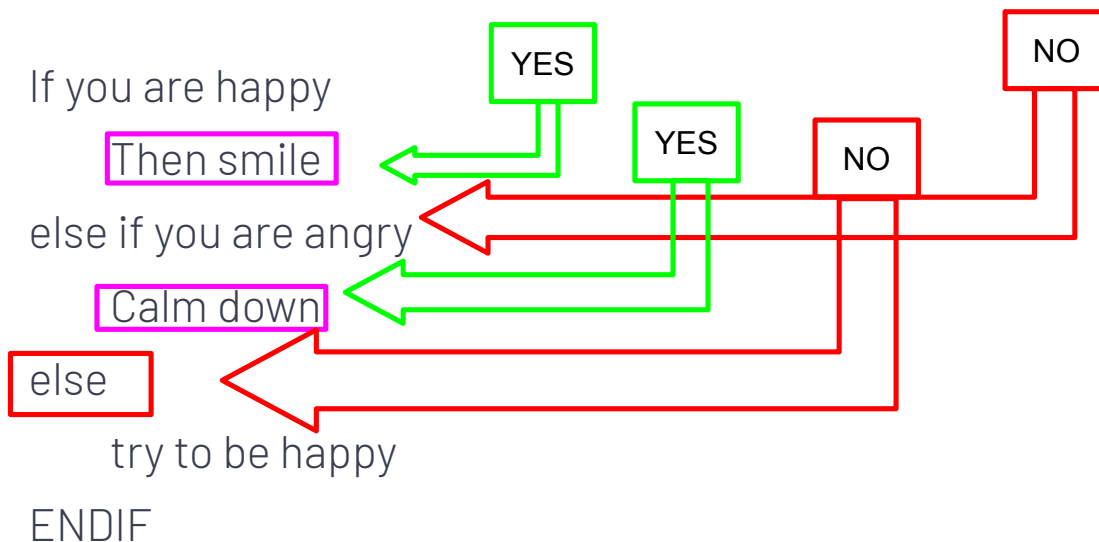
```
IF you are happy
    Then smile
ENDIF

If you are tired
    Then rest
else if you are stressed
    Then relax
else
    Keep working
```

As you can see we also use indentation in order to declare that "smile" is being executed **inside** the if statement above it.

IF - ELSE IF - ELSE

This keyword is used if a certain condition has to be met for the upcoming block to be executed. For example:



IF - ELSE IF - ELSE

```
Begin
INPUT hours, rate
IF hours < 40
THEN
    pay = hours * rate
ELSE
    pay = 40 * rate + (hours - 40) * rate * 1.5
OUTPUT pay
End
```

FOR structure

For loop runs for each element inside a group. For example:

For every day of the week

Count;

endfor



FOR structure

For loop runs for each element inside a group.
For example:

For every 25 minutes of study

Earn one Pomodoro;

endfor



Pomodoro = Pomodoro +1

WHILE Structure



While is similar to the for loop, differently it runs the loop until the condition provided is **unsatisfied**. Example:

Apples = 5

Oranges = 10

While apples < oranges

increase apples;

endwhile

Exercise



Write a pseudocode that takes a number as an input and prints true if it is greater than 10 and false otherwise.



Pear Deck Interactive Slide
Do not remove this bar

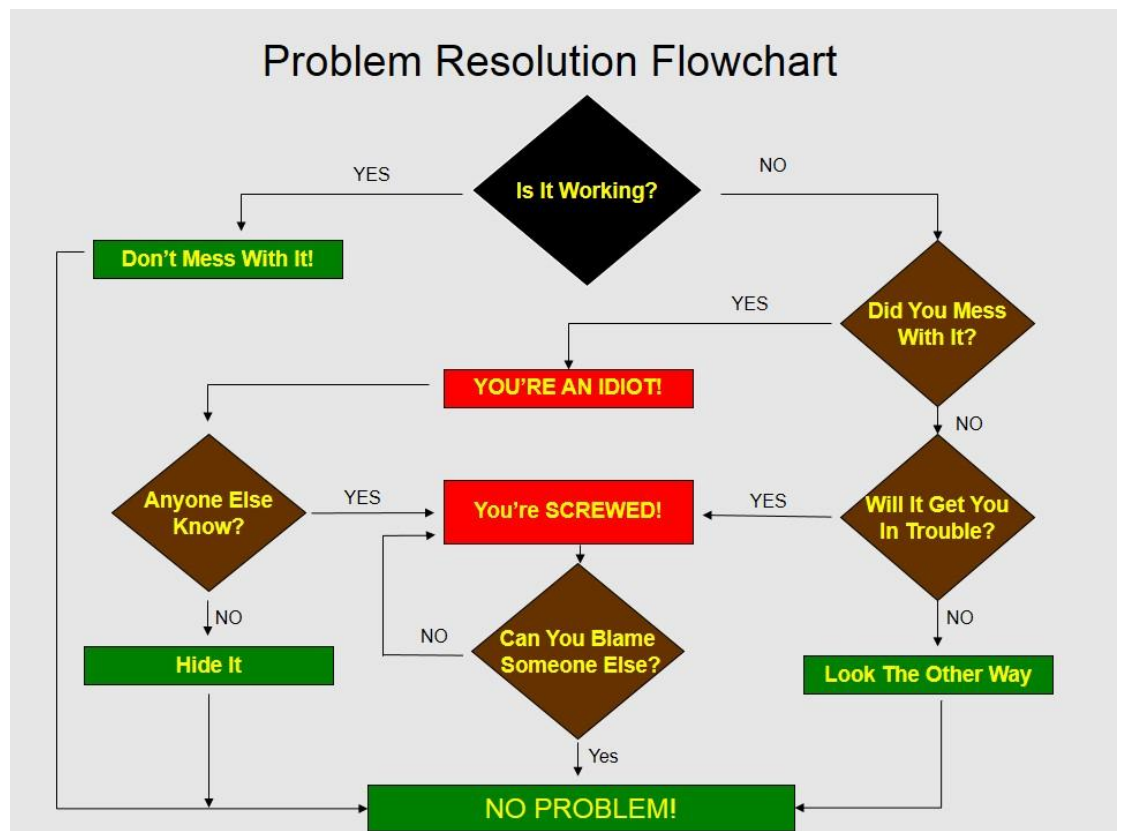
9

Kahoot!











2 Flowcharts



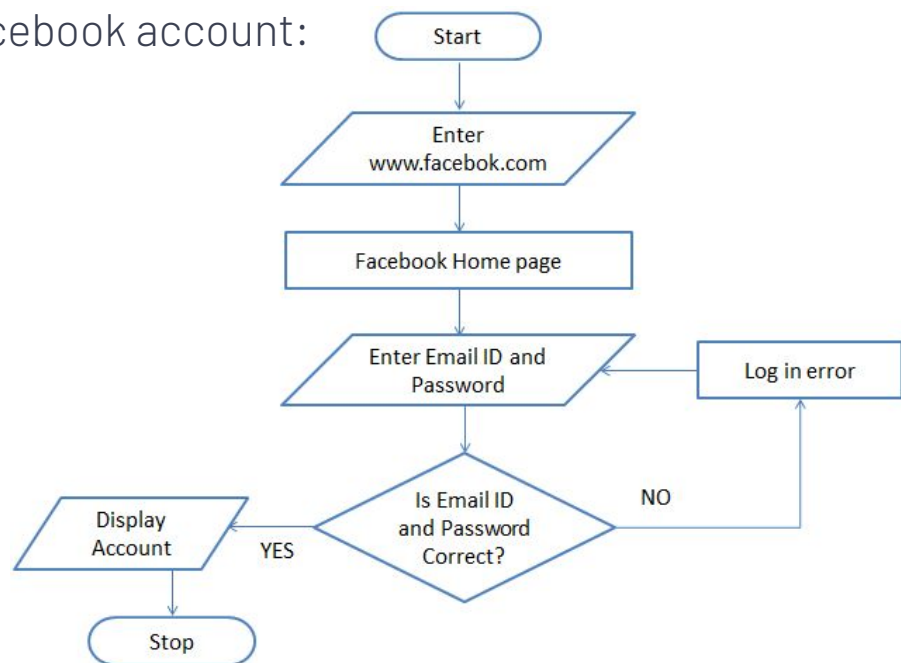
Flowcharts

- A flowchart is a diagram that represents a sequence of instructions.
- Flowcharts have standard symbols to represent different instructions.

Name	Symbol	Usage
Start or Stop		The beginning and end points in the sequence.
Process		An instruction or a command.
Decision		A decision, either yes or no.
Input or Output		An input is data received by a computer. An output is a signal or data sent from a computer.
Connector		A jump from one point in the sequence to another.
Direction of flow		Connects the symbols. The arrow shows the direction of flow of instructions.

Login Diagram

A flowchart to login to facebook account:



Brew Turkish Tea



Let's draw a flowchart of steps to brew Turkish tea using gitmind flowchart drawing feature!



Showtime



Show your masterpiece

4-5 team ⌚ 10 min

Exercise

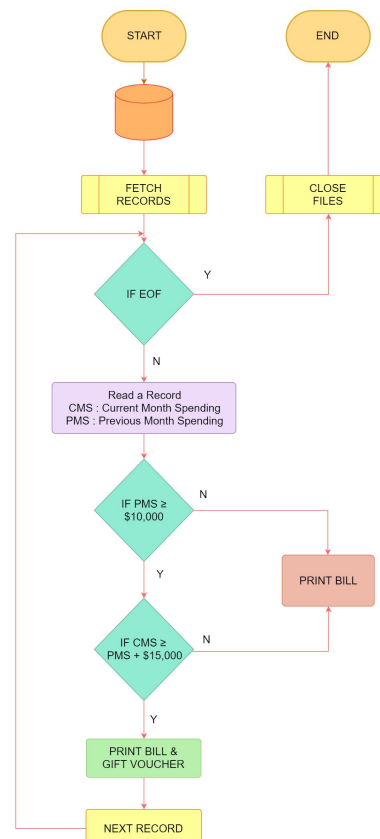


Bank of America has launched a promotion for its credit card customers. According to the promotion, the customers will receive a gift voucher worth \$500 with their monthly bill if they spend \$15,000 more than their last month spending and their last month bill is not less than \$10,000.

Solution



Draw the flowchart of the promotion





THANKS!

Any questions?

You can find me at:

- ▶ @marcus
- ▶ marcus@clarusway.com

