

Problem Solving With Computational Thinking

Session-3





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
	else if you are stressed
	Then relax
ENDIF	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.



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```
IF you are happy
    Then smile
ENDIF
```

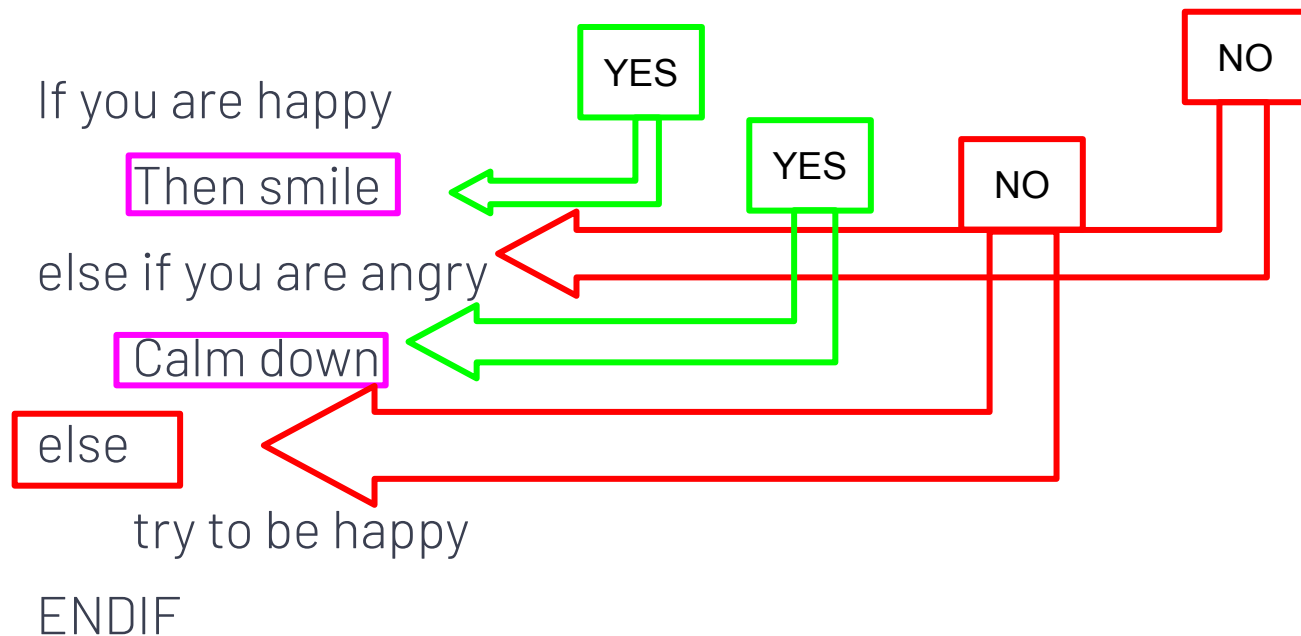
```
If you are tired
    Then rest
else if you are stressed
    Then relax
else
    Keep working
```

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



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ENDIF



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

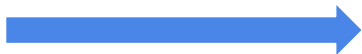
For loop runs for each element inside a group.

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.



Students, write your response!



Kahoot!

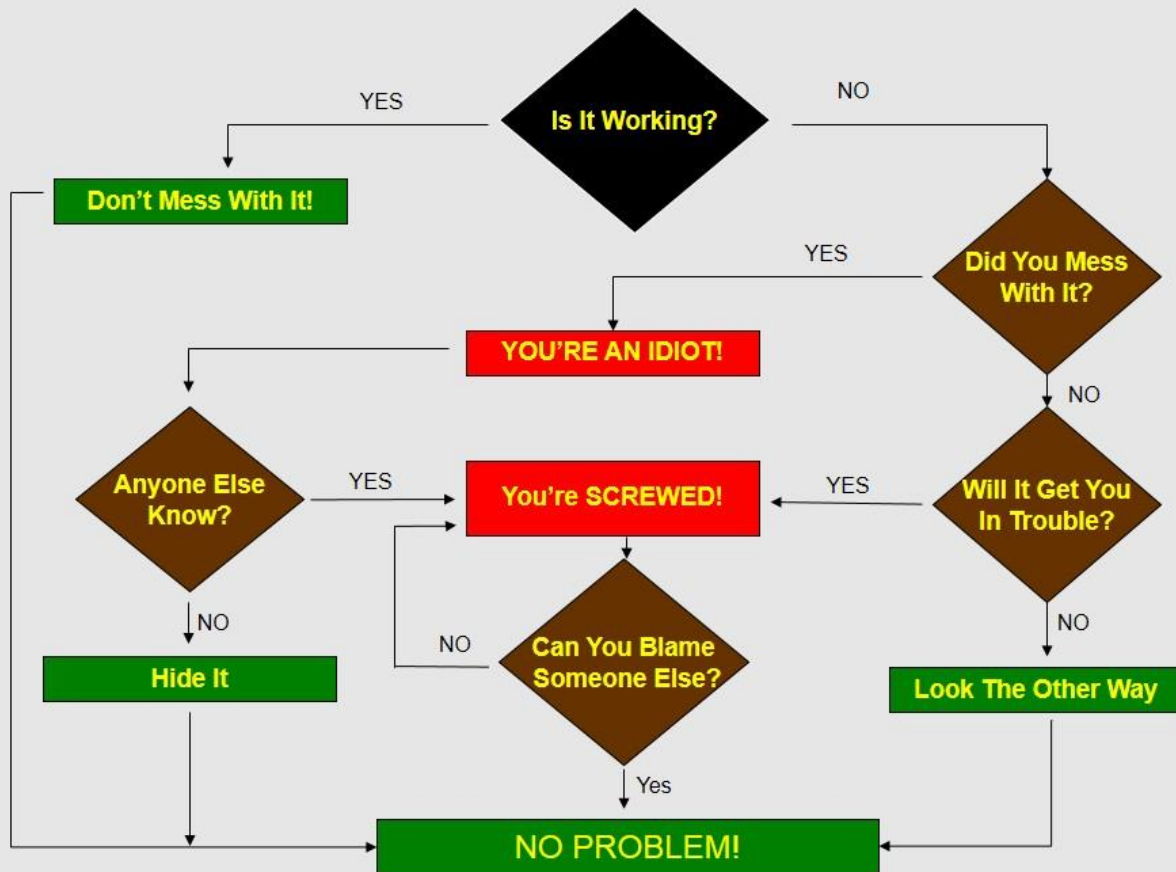


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Flowcharts



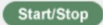


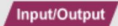


Problem Resolution Flowchart





Flowcharts

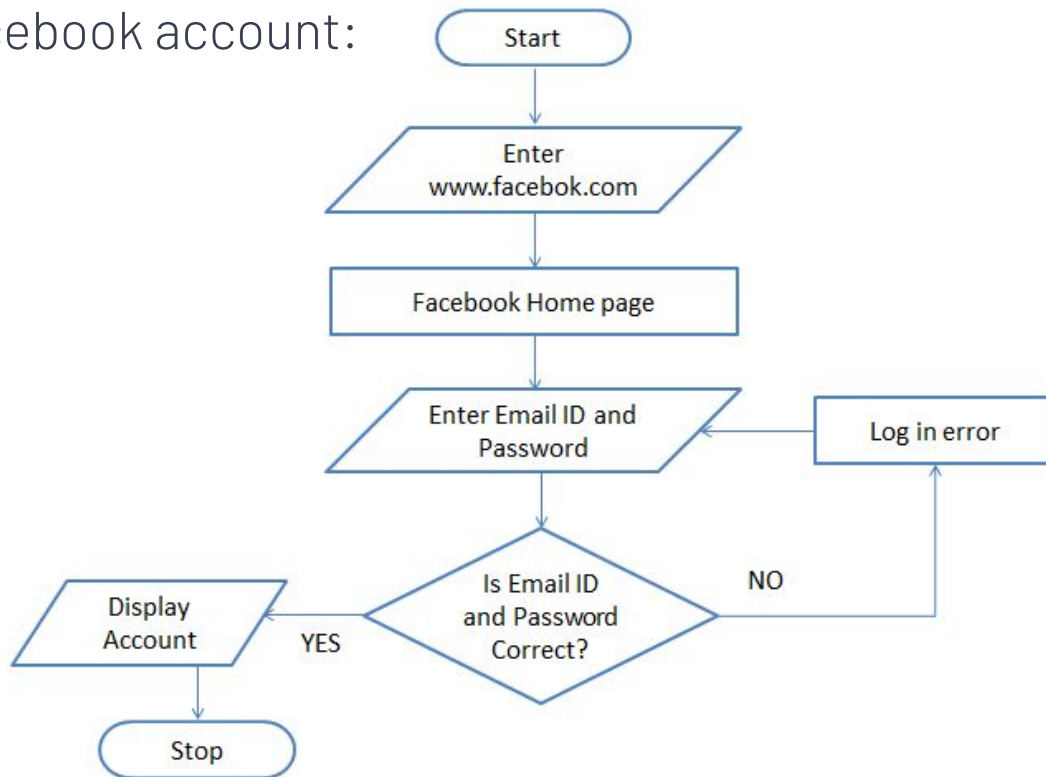
- A flowchart is a diagram that represents a sequence of instructions.
- Flowcharts have standard symbols to represent different instructions.

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

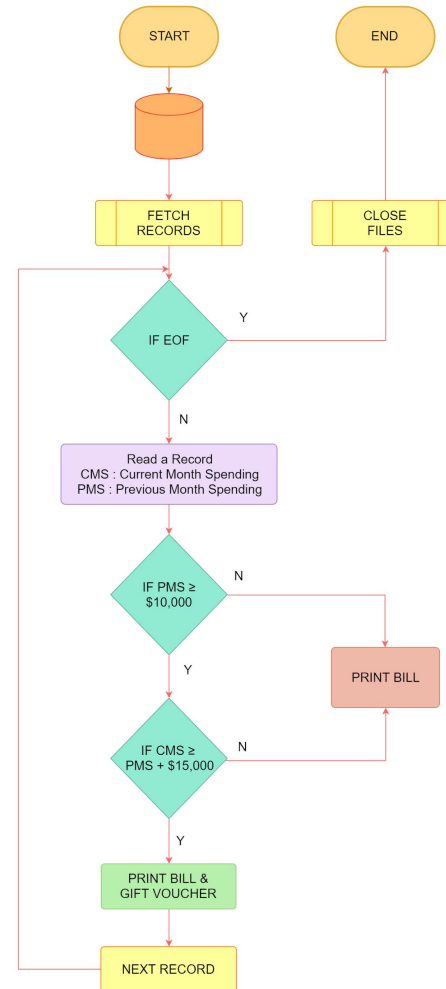
Exercise



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?

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