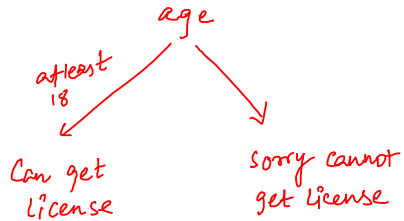


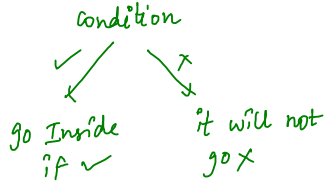
* If-else statements



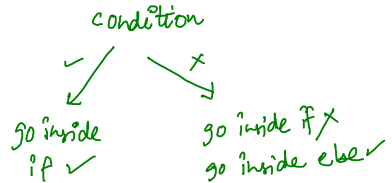
→ we have to take decisions based on something/value

→ Control structures
(It is controlling the flow of program)

```
* if (condition) {  
    /* block of code */  
}
```



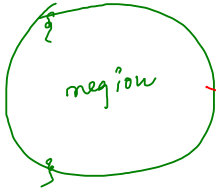
```
* if (condition) {  
    /* code */  
}  
else {  
    /* code */  
}
```



* Scope in brief/Basic :

```
261 const birthYear = 1998;  
262 if (birthYear <= 2000) {  
263   let century = 20;  
264 } else {  
265   let century = 21;  
266 }  
267 console.log(century);
```

→ Century variable is born inside 'if' statement hence it is available in that region only.



variables declared in this region are not accessible outside this.

→ When JS doesn't know about some variable it gives an "ReferenceError".

* Experimenting with if-else statements:

①

```
272 const day = "wednesday";
273 if (day == "monday") {
274   console.log("I have to go for a doctor appointment");
275 }
276 if (day == "monday") {
277   console.log("I have to fo for shopping");
278 }
279 if (day == "tuesday") {
280   console.log("I have an exam");
281   console.log("I have to attend a wedding");
282 } else {
283   console.log("I dont know what to do");
284 }
```

②

```
272 const day = "monday";
273 if (day == "monday") {
274   console.log("I have to go for a doctor appointment");
275 }
276 if (day == "monday") {
277   console.log("I have to fo for shopping");
278 }
279 if (day == "tuesday") {
280   console.log("I have an exam");
281   console.log("I have to attend a wedding");
282 } else {
283   console.log("I dont know what to do");
284 }
```

③

```
272 const day = "monday";
273 if (day == "monday") {
274   console.log("I have to go for a doctor appointment");
275 } else {
276   console.log("I dont know what to do");
277 }
278 if (day == "monday") {
279   console.log("I have to fo for shopping");
280 }
281 if (day == "tuesday") {
282   console.log("I have an exam");
283   console.log("I have to attend a wedding");
284 }
```

④

```
272 const day = "tuesday";
273 if (day == "monday") {
274   console.log("I have to go for a doctor appointment");
275 } else {
276   console.log("I dont know what to do");
277 }
278 if (day == "monday") {
279   console.log("I have to fo for shopping");
280 }
281 if (day == "tuesday") {
282   console.log("I have an exam");
283   console.log("I have to attend a wedding");
284 }
```

→ always else is attached with nearest if, you can use as many if statement you want without using else, but without if you cannot use an else statement.

```
287 const day = "monday"; "sunday"; "wednesday"
288
289 if (day == "monday") { console.log("Plan course structure");
290   console.log("Plan course structure");
291 }
292
293 else if (day == "tuesday") { else if (day == "tuesday") {
294   console.log("Prepare for exams");
295 }
296
297 else if (day == "wednesday") { else if (day == "wednesday") {
298   console.log("Write examples for coding lectures");
299 }
300
301 else if (day == "thursday") {
302   console.log("Watch recordings");
303 }
304
305 else if (day == "friday") {
306   console.log("solve assignments");
307 }
308
309 else if (day == "saturday") {
310   console.log("Revise all notes");
311 }
312
313 else if (day == "sunday") { else if (day == "sunday") {
314   console.log("attempt contest");
315 }
```

* else if :

→ works same as else statement
but it also checks for condition

→ same as else it is attached previous
if statement.

A AND B

"Sarah has a driver's license
AND good vision"

	A	
	TRUE	FALSE
B	TRUE	TRUE FALSE
	FALSE	FALSE FALSE

Possible values

Results of operation, depending on 2 variables

📌
true when ALL are true

No matter how many variables

A and B \Rightarrow Both statements should satisfy
 \Rightarrow should be true
 \checkmark $T \Rightarrow A, B = T$

\Rightarrow A and B

T and T \rightarrow T

T and F \rightarrow F

F and T \rightarrow F

F and F \rightarrow F

📌 EXAMPLE:

A: Sarah has a driver's license \rightarrow T/F

B: Sarah has good vision \rightarrow T/F

Boolean variables that can be either TRUE or FALSE

A AND B

"Sarah has a driver's license
AND good vision"

		A	
		TRUE	FALSE
B	TRUE	TRUE	FALSE
	FALSE	FALSE	FALSE

Results of operation, depending on 2 variables

true when **ALL** are true

No matter how many variables

A OR B

"Sarah has a driver's license
OR good vision"

		A	
		TRUE	FALSE
B	TRUE	TRUE	TRUE
	FALSE	TRUE	FALSE

true when **ONE** is true

A or B \rightarrow either one of them
Should satisfy
 \Rightarrow at least one statement
should be true.

EXAMPLE:

A: Sarah has a driver's license
B: Sarah has good vision

Boolean variables that can be either TRUE or FALSE

T or F \rightarrow T
T or T \rightarrow T
F or T \rightarrow T
F or F \rightarrow F

A or B or C or D

\Rightarrow F or F or F or T \rightarrow T

\Rightarrow (F) or (F) or (F) or T \rightarrow F

\Rightarrow T or T or T or T \rightarrow T

① Anurag and Rahul are going to a movie \rightarrow T

② Anurag or Rahul are going to a movie \rightarrow T

Both, either one of them

A AND B

"Sarah has a driver's license
AND good vision"

Possible values

AND	A		
	TRUE	FALSE	
B	TRUE	TRUE	FALSE
	FALSE	FALSE	FALSE

Results of operation, depending on 2 variables

📌
true when ALL are true

No matter how many variables

A OR B

"Sarah has a driver's license
OR good vision"

		A	
		OR	
B	TRUE	TRUE	TRUE
	FALSE	TRUE	FALSE

📌
true when ONE is true

NOT A, NOT B



Inverts true/false value

📌 EXAMPLE:

A: Sarah has a driver's license

B: Sarah has good vision

Boolean variables that can be either TRUE or FALSE

NOT (false) → true

NOT (true) → false

BOOLEAN VARIABLES

👉 A: Age is greater or equal 20

false

👉 B: Age is less than 30

true

age = 16

LET'S USE OPERATORS!

👉 !A

false

true

👉 A AND B

false

true

false

👉 A OR B

false

true

true

👉 !A AND B

true

true

true

👉 A OR !B

false

false

false

A

AND	TRUE	FALSE
B	TRUE	FALSE
TRUE	TRUE	FALSE
FALSE	FALSE	FALSE

A

OR	TRUE	FALSE
B	TRUE	TRUE
TRUE	TRUE	TRUE
FALSE	TRUE	FALSE