lesson 45 Boolean

There is a data type called **Boolean**, it stocks **0** or **1**, doesn't know any other value. If we give him **any other value** he will stock it as **1**.

We can use the boolean data type after including the library **stdbool.h**

```
#include <stdio.h>
#include <stdbool.h>
int main() {
bool x = 5;
printf("%d\n", x);
}
```

output:

```
1
```

Try the code yourself : Click here!

As we said that any value except 1 or 0 is taken as 1:

```
#include <stdio.h>
#include <stdbool.h>
int main() {
bool x = -50;
printf("%d\n", x);}
```

output:

1

Try the code yourself : Click here!

Only if we put **0,** the result is going to be **0** :

```
#include <stdio.h>
#include <stdbool.h>
int main() {
bool x = 0;
printf("%d\n", x);
}
```

output:

0

Try the code yourself : Click here!

We also can use **Boolean** in many other things, most of them in the if statement. As we know in C while checking a condition, it's false if it's 0 and true if !0

Example : Check if the number is even or odd :

```
#include <stdio.h>
#include <stdbool.h>
bool iseven(int x) {
if (x % 2 == 0)
return 1; // If the number is even
return 0; //If the number is odd }
```

Try the Code : Click Here.

We can also shorten the code like this:

```
#include <stdio.h>
#include <stdbool.h>
bool iseven(int x) {
return x % 2 == 0;
}
int main() {
if (iseven(5))
printf("Even \n");
else
printf("odd \n");
}
```

output:

odd