Lesson 8 While

When you go to the supermarket, does the cashier ask you about the number of items you brought? He merely wants to know how much they cost, even if he didn't know them before.

Thus, we need **loops** that continue to execute a target statement, calculating the cost of items, as long as a given **condition** is true.

The **while loop** can be used here as it repeats a block of code until a specified condition is met.

```
while(condition){
   //the target statement(s)
}
```

Example:

A program that prints the numbers from 0 to 4

```
#include <stdio.h>
int main() {
   int i = 0;
   while (i < 5) {
      printf("%d \n", i);
      i++;
   }
}
```

output:

0 1 2 3 4

Try to code yourself:

- - > click here: Lesson 8 while - Replit

The condition here is inside the parentheses (i<5)

As long as the value of i is less than 5, the process goes on. In the first iteration, when i=0, the test expression i<5 is **true**. Hence, the body of the while loop is executed. This prints 0 on the screen and the value of i is increased to 1. This process goes on until i becomes 5. Then, the test expression i<5 will be **false,** and the loop terminates.

If we want the program to repeat **indefinitely**, we put '1' inside the loop condition:

```
while(1){
   //the target statement(s)
}
```

If we want to use the **for loop** in the same way as the while loop, we can do so as follows:

For(; condition ;)

There must be two semicolons ; ;