What is function:

A function is a named block of code that performs a specific task.
Instead of writing the same code again and again, we write it once inside a function and call it whenever needed.

How Functions Work

- When a function is defined, Python remembers the steps inside it.
- When the function is called, Python runs those steps.
- The same function can be called many times from different places in the program.

What Happens to Variables Inside a Function?

- Variables created inside a function exist only while the function is running.
- When the function finishes, those variables are cleared from memory.
- When the function runs again, it starts fresh with new values.
- This is why the same function gives different results when it is called with different values.

Why Functions Are Useful

Functions help us:

- avoid repeating code
- make programs easier to read
- fix or improve behavior by changing code in **one place**
- reuse the same logic in many projects

Function Definition Syntax in Python

General Syntax

def function_name(parameters):

statements

return value

- def → keyword used to define a function
- function_name → name of the function (should describe what it does). It should always be followed by a colon
- parameters → values passed into the function (optional)

- statements → instructions that run when the function is called
- return → sends a value back (optional)

Example:

```
def multiply(a, b):
    result = a * b
    print("Answer is ", result)

multiply(5, 4)
```

Now let us write a function to flash Neopixels on the CPX: