[hoc.nclab.com/karel/](https://hoc.nclab.com/karel/)

**Loops, Conditions, and Functions**

Karel the Robot introduced 3 major new topics:

**Loops**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Conditions**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Functions**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What exactly is a **block of code**?

Example 1 of a **block of code**: Example 2 of a **block of code**:

**Loops**

Loops make life easier by letting us repeat useful code and keep are programs short. In the Karel Assignment you came across two types of loops: \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_ is used when \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

In Python, \_\_\_\_\_\_\_\_\_\_ is called \_\_\_\_\_\_\_\_\_\_ and is used as follows:

\_\_\_\_\_\_\_\_\_\_ is used when \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

In Python, \_\_\_\_\_\_\_\_\_\_ is called \_\_\_\_\_\_\_\_\_\_ and is used as follows:

**Conditions**

Conditions are powerful because they enable our programs to respond intelligently to different situations.

In Python as in Karel’s world, conditions are usually written using \_\_\_\_\_\_\_\_\_\_

For example:

**Functions**

Although Karel did not use the word, when you used the \_\_\_\_\_\_\_\_\_\_ keyword you were creating a new \_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

Functions are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Functions allow the programmer to expand their own capabilities.

Python, like Karel, uses \_\_\_\_\_\_\_\_\_\_ to create functions. For example:

**Summary**

**Loops**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Conditions**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Functions**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_