

14) functions:

- function helps break our program into smaller and modular chunks. As our program grows larger and larger
- function make it organized and manageable.
- function is a block of code which only runs when it is called.
- you can pass data, known as parameters, into function.
- function can return data as a result.

(i) creating function:

- function defined using def keyword.

```
def my_function():  
    print("function")
```

(ii) calling function.

- to call function, use function name followed by parentheses
`my_function()`.

(iii) Arguments:

- Information can be passed into a function as arguments.
- Arguments are specified after the function name, inside parentheses. (multiple arguments can add separated by commas).

```
def my_function(fname):  
    print(fname + " Boy")  
  
my_function("Email")  
my_function("mobile")
```

(iv) Number of Arguments:

- By default, function must be called with correct number of arguments.

```
def my_function(fname, lname):  
    print(fname + " " + lname)  
  
my_function("Email", "password")
```

(v) Arbitrary Arguments, *args:

- If do not know how many arguments that will pass into your function add * before parameter name.

- This way function will take tuple of arguments

```
def my_function(*kids):  
    print("youngest child is " + kids[1])  
my_function("Email", "psud", "user").
```

- you can also send arguments with the key = value syntax.
- order of arguments does not matter.

```
my_function(child = "Email", child2 = "Tobias", child3 = "Linus").
```

(vi) Arbitrary keywords Arguments **kwargs.

- If you don't know how many keyword argument that will be passed into your function, add two asterisks ** before parameter

```
def my_function(**kid):  
    print("His last name is " + kid["lname"])  
my_function(fname = "user", lname = "psud")
```

(vii) Return list (passing a list as an argument).

- You can send any data types of argument to a function (string, Number, list, dictionary etc.).
- and it will be treated as the same data type inside the function.

Example:

If you send a list as an argument, it will still be a list inside the function

(ix) Return Value:

- To return a data as value, use return statement.

Example:

```
def my_function(x):  
    return 5 * x
```