2 Functions

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- 2 Functions
 - 1. Function structure
 - 1.1 Function
 - 1.2 Arguments (in print())
 - 2. Comments and Pseudocode
 - 3. Create our own function by def
 - First function without arguments
 - Function with Arguments
 - Function with default value
 - 4. Return values
 - 5. Variables and parameters are local
 - 6. Stack diagrams and debugging
 - 7. Organizing our code by using main()
 - 8. Practice questions
 - Summing up

1. Function structure

The first function: print()

1.1 Function

1.2 Arguments (in print())

Arguments

• print() arguments: the python documentation at https://docs.python.org/3/library/functions.html#print.

Default arguments

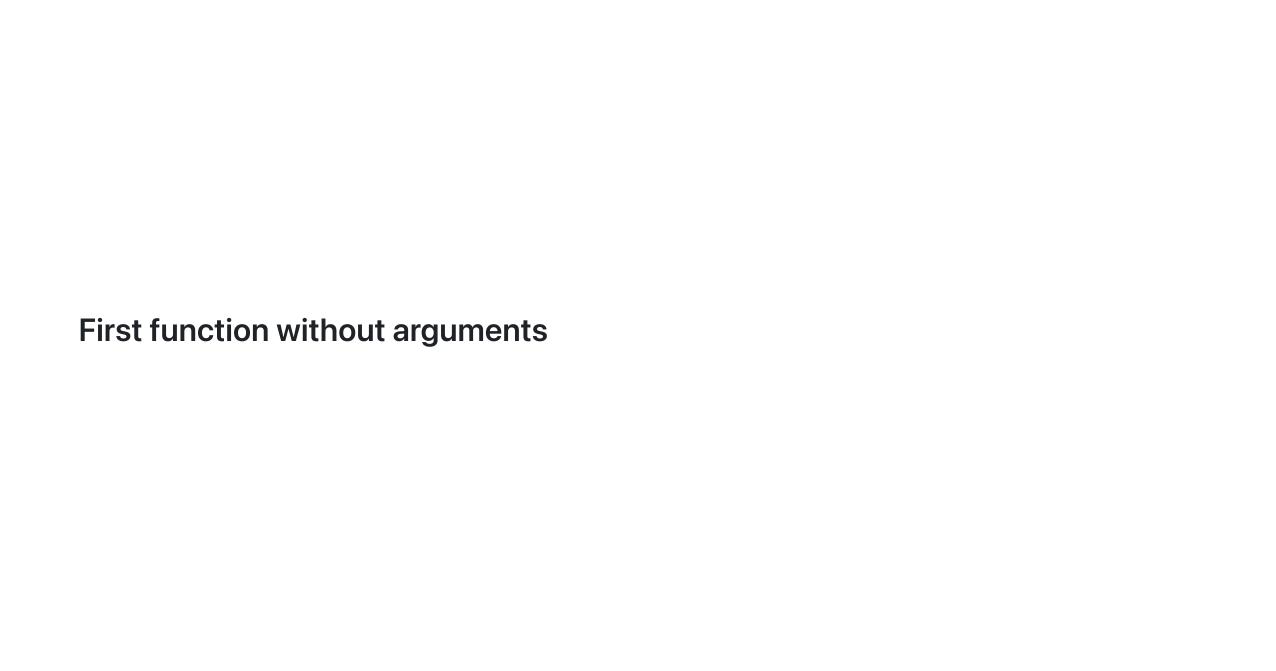
2. Comments and Pseudocode

Comments

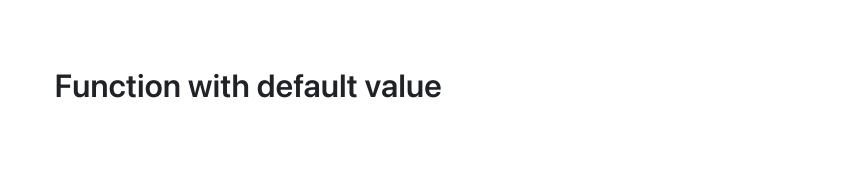
Pseudocode

Multi-line comment

3. Create our own function by **def**



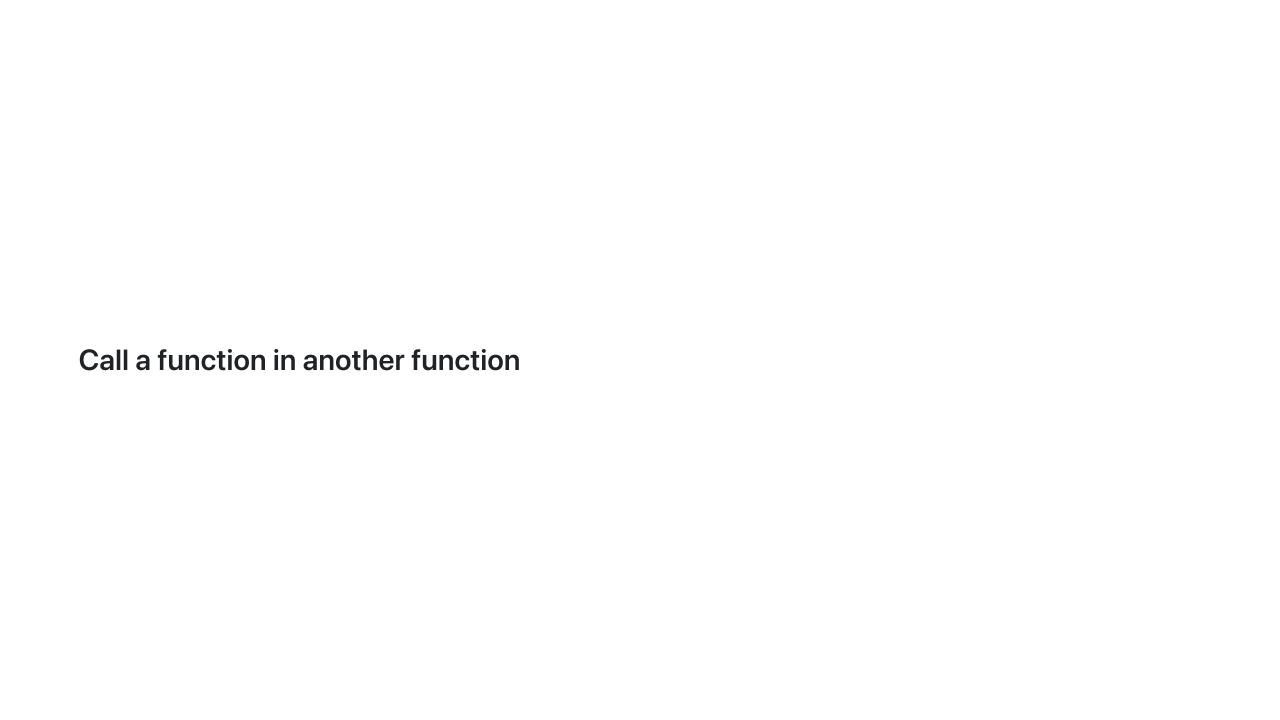
Function with Arguments



4. Return values

5. Variables and parameters are local

6. Stack diagrams and debugging





Debugging

7. Organizing our code by using main()

8. Practice questions

- 1. Write a program to create a function show_employee() using the following conditions.
 - It should accept the employee's name and salary, and print both.
 - If the salary is missing in the function call, then assign default value 9000 to salary.

Given

```
showEmployee("Ben", 12000)
showEmployee("Jack")
```

Expected output:

```
Name: Ben, salary: 12000
Name: Jack, salary: 9000
```

2. What is the output of the following program?

```
def outer_fun(a, b):
        square = a ** 2
        # inner function
        def addition(a, b):
                return a + b
        add = addition(a, b)
        return add + 5
result = outer_fun(5, 10)
print(result)
```

- 3. Calculate the area of a circle. The mathematical formula is πr^2 , where r denotes the radius, and π is the mathematical constant, 3.14.
 - i. create a function named square, which returns the squared value given a number.
 - ii. create a function named area, which returns the area of a circle given a radius. In this function, you need to call the square function defined above.
 - iii. Create a main function to orgnize the program. In the main function, print a sentence like
 - lacktriangle "The area of a circle with radius 1 is 3.14." if you put r=1, or
 - lacktriangle "The area of a circle with radius 2 is 12.56." if you put r=2.

Summing up

- print() function
- Arguments in print()
- Comments and pseudocode
- Create function using def
- Arguments, default value
- Local variables
- main() function

End