Python Basic- Assignment- 03

1. Why are functions advantageous to have in your programs?

Answer:

Python applications benefit from functions because they enable code to be created only once and then reused again. As a result, code is more effective and simpler to maintain. In order to make code easier to debug and alter, functions also aid in breaking it up into more manageable chunks. They also offer a method for structuring code and grouping it into logical chunks, which makes it simpler to read and comprehend. Last but not least, functions can be used to organize related code together, reducing unnecessary code and encouraging code reuse.

2. When does the code in a function run: when it's specified or when it's called?

Answer:

The code in a function runs when it is called. A function is a segment of clean, reusable code that executes a single, connected operation. The program inside a function is run when it is invoked. This implies that the function executes each statement in the order that it appears.

3. Describe three different data types.

Answer:

A function in Python is created using the keyword "def", followed by the function name and parentheses ( ), and ending with a colon (:).

For example, the following statement creates a function named myFunction:

“def myFunction():”

4. What is the difference between a function and a function call?

Answer:

A function is a section of code that only executes when called. A function call is a command that instructs python to run the code contained within the function. The function name is followed by parentheses in the syntax for invoking functions. Function calls include things like functionName(). For example:

```
def myfunc():

  print("This is my function")

myfunc()
```


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Output:

```
This is my function
```

5. How many global scopes are there in a Python program? How many local scopes?

Answer:

In a Python program, There is only one global scope in a Python program, but there can be multiple local scopes. as there are functions, classes, and other logical sections of code.

6. What happens to variables in a local scope when the function call returns?

In Python, all variables in a local scope are destroyed when the function call returns. This is known as "name binding" or "variable scope". As a result, any variables declared inside a function cannot be accessed outside of the function.

7. What is the concept of a return value? Is it possible to have a return value in an expression?

Answer:

The value that is returned by a function after it has been called or executed is referred to as the function's return value. If an expression evaluates to a value that may be returned, then the expression can contain a return value in it. This is one of the conditions that must be met. One example of a function that could have an expression as its return value is one that accepts two numbers as arguments and then returns the sum of those numbers.

For Example:

```
def sumfunc(a,b):

  return a+b

sumfunc(10,25)
```

Output:

```
35
```

8. If a function does not have a return statement, what is the return value of a call to that function?

Answer:

If a function does not have a return statement, the return value of a call to that function is undefined.

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9. How do you make a function variable refer to the global variable?

Answer:

In Python, we can make a function variable refer to a global variable by using the "global" keyword before the variable name inside the function. For example:

```
x = 5
def my_function():
    global x
    x += 1
    print(x)

my_function()
```

Out:

```
6
```

In this example, the variable x inside the function refers to the global variable x, and modifying it also modifies the global variable.

10. What is the data type of None?

Answer:

In Python, None is a special constant and it is of NoneType Data type. It represents the absence of a value or a null value. It is an object of its own data type – NoneType. You can use the built-in function type() to check the datatype of a variable or an expression.

```
x = None
print(type(x))
```

Output:

```
<class 'NoneType'>
```

11. What does the sentence import areallyourpetsnamederic do?

The sentence "import areallyourpetsnamederic" in python is an attempt to import a module or package called "areallyourpetsnamederic" . If such a module or package does not exist or is not installed in the current Python environment, the interpreter will raise an "ImportError" indicating that the module or package could not be found.

It is not a standard module or package in python and it is not a common name, it is probably a custom module or package created by someone else, and it probably doesn't exist on the user system.

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12. If you had a bacon() feature in a spam module, what would you call it after importing spam?

It would be called "spam.bacon()".

13. What can you do to save a programme from crashing if it encounters an error?

We can use "try-except" blocks to handle errors and prevent the program from crashing.

14. What is the purpose of the try clause? What is the purpose of the except clause?

The *try* clause is used to catch exceptions that occur during execution of the code. It allows the programmer to specify code that should be run if an exception is encountered.

The except clause is used to handle exceptions that occur within the try clause. This clause is used to execute code when an exception occurs. It provides a way to take appropriate action when an exception is encountered. To avoid any programming crash inside the try block we use *pass* after *except*.

```
try:
  x = 5
  def my_function():
      #global x
      x += 1
      print(x)

  my_function()
except:
  pass
```

In this try block, there is a line for declaration x as a global variable. If we just comment it then it will throw an error and the program will crash. But if we use try-except block then we can avoid crashing the program.

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