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

**Answer:**

Functions are advantageous to have in programs for several reasons:

**Reusability:** Functions allow you to define a block of reusable code that can be called multiple times from different parts of the program.

**Modularity:** Functions enable you to break down complex tasks into smaller, manageable units

**Abstraction:** Functions abstract away implementation details, allowing you to focus on the higher-level logic of your program. By encapsulating specific functionality within a function, you can hide the underlying implementation and provide a clean interface for other parts of the program to interact with.

**Code organization and readability:** Functions provide a structured way to organize code. By grouping related functionality into functions, we can make our code more readable and understandable.

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

**Answers:**

The code inside a function runs when the function is called, not when it is specified or defined.

When you define a function, you are essentially creating a reusable block of code with a specific name and set of parameters. The code inside the function body defines what actions or computations the function should perform when it is called.

However, the code inside the function does not execute until the function is explicitly called or invoked in the program

3. What statement creates a function?

**Answers:**

In Python, the def statement is used to create a function. The def statement is followed by the name of the function, parentheses for any parameters, and a colon to indicate the start of the function block.

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

**Answers:**

**Function:** A function is a block of code that performs a specific task or a set of related tasks. It is defined using the **def** statement in Python and has a name, optional parameters, and a body of code that specifies what actions the function should carry out.

**Function call:** A function call, also known as invoking or executing a function, is the act of using a function in your program. It is the point at which you want the code within a function to be executed.

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

**Answers:**

There is one global scope in a Python program.The global scope is accessible from anywhere in the program.

The number of local scopes depends on the number of functions or code blocks in the program.Local scopes are created when a function is called or a code block is entered, and they cease to exist when the function returns or the code block is exited.

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

**Answers**:  
When a function call returns in Python, the local scope associated with that function is destroyed, and the variables defined within that local scope cease to exist. This means that the variables defined within the function are no longer accessible outside of the function once the function call has completed.

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

**Answers:**

The concept of a return value in programming refers to the value that a function produces and sends back to the caller when the function is executed. When a function is called, it may perform some computations or operations and produce a result, which can be returned to the caller for further use or processing.

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

**Answers**:  
If a function in Python does not have a return statement, the function call will still return a value. However, the return value will be **None**

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

**Answers:**

In Python, if you want to make a function variable refer to a global variable, you can use the **global keyword** to declare that the variable being referenced is a global variable, rather than a local variable within the function's scope.

10. What is the data type of None?

**Answers:**

In Python, the data type of None is called NoneType. It is a special data type that represents the absence of a value or the lack of any specific object. None is often used as a default value or to indicate that a variable or function does not return a value.

11. What does the sentence import areallyourpetsnamederic do?

**Answers:**

The sentence "import areallyourpetsnamederic" is not a valid Python import statement. In Python, the import keyword is used to import modules or packages, which are external files or collections of code that provide additional functionality.

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

**Answers:**

If you have a function named bacon() in a module named spam, you can call it after importing the spam module by using the syntax spam.bacon(). This indicates that you want to call the bacon() function that is defined within the spam module.

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

**Answers:**

To prevent a program from crashing when it encounters an error, you can use error handling techniques. In Python, you can achieve this using try-except blocks. By placing the potentially problematic code within a try block and handling any exceptions in an except block, you can gracefully handle errors and take appropriate actions.

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

**Answers:**

**The purpose of the try clause** in Python is to enclose a block of code that may potentially raise an exception. The code within the try block is executed, and if an exception occurs during its execution, the flow of control is transferred to the corresponding except block.

**The purpose of the except** clause is to define the actions to be taken when a specific exception occurs within the try block. An except block is associated with a particular exception type, and it specifies the code to be executed when that specific exception is raised.