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

**ANS: to have function in program there are few advantages of function**

1. **Reusability of cod: Basically function is block of statements that execute when a function calls by their function name that helps us to reuse of code that can be reduce time complexity and space complexity**
2. **Modularity: Functions allow you to break down a large program into smaller, more manageable parts. This makes it easier to write, debug, and maintain your code.**
3. **Code organization: Functions allow you to organize your code into logical groups, which can make it easier to understand and navigate your code.**
4. **When does the code in a function run: when it's specified or when it's called?**

**ANS: The code in function run when we call that function by their name and passed them required arguments without function call our code in function that can’t run**

1. **What statement creates a function?**

**ANS: The statement that creates a function in Python is the def statement. The def statement is used to define a function in Python, and it includes the function name, a set of parentheses, and a colon. The function name is followed by the function body, which contains the code that will be executed when the function is called.**

1. **What is the difference between a function and a function call?**

**ANS: Function: function is block of statements that we define once and call as many time to execute a function we call function by name and passed required argument**

**Basic syntax to declare function :**

**def function\_name(parameter\_list):**

**pass**

**Function call: to execute any function we call that function to call function we called by function name and passed them required argument that collect in function definition in the form of parameter**

**For example:**

**def sum(n1,n2):**

**Return n1+n2**

**Sum(2,3)**

**In above example we create a function that name is sum thst take two parameter n1,n2 and it return sum of them until we cant call function by their name so we call that function and passed them 2,3 as argument**

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

**ANS: in python program global scope can be one but local scope can be many .global scope means scope of variable outside function and as well as inside function, but local scope means scope of that variable inside the function only**

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

**ANS: When a function call returns, the local variables that were created within the function are destroyed and their memory space is freed up. This means that any variables that were defined within the function, or that were passed as arguments to the function, are no longer accessible once the function has returned.**

**For example, consider the following function that takes a parameter and creates a local variable inside the function:**

**def my\_function(x):**

**y = x + 1**

**return y**

**When this function is called, a new local scope is created, and the parameter x and the local variable y are created within that scope. Once the function has finished executing and returned the value of y, the local scope is destroyed and the variables x and y no longer exist.**

**This means that if we try to access x or y outside the function, we will get an error. For example, the following code will raise a NameError, because x and y are not defined outside the function:**

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

**ANS: return is a function that mainly used at the end of function basically return function is use to store value of function in some variable so we can access those value in our program and that scenario don’t happen with print function that only print message or variable and don’t store any value to them.** **it is possible to have a return value in an expression. When a function call is used in an expression, the return value of the function is used as a part of the expression.**

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

**ANS: if function does not have a return values then return value of that function will be none for example:**

**def greet(s):**

**Print(“hello “+s)**

**greet(“Vicky”)**

**s=greet(“sam”)**

**print(s) # output will be none**

**when we run code in function using function call then output will be hello Vicky but we store into a variable and print that variable then we get none**

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

**ANS: if we want to make a function variable to be global variable so we use global keyword for example:**

**def say\_hello():**

**global s**

**s="vicky"**

**print (s)**

**say\_hello()**

**print(s)**

**in above example we can access s variable outside function using global kayword**

1. **What is the data type of None?**

**ANS: none is to basically used to represent absent of value and either a function or method don’t have return value and the data type of none is <class 'NoneType'>**

1. **What does the sentence import are all you rpetsnamederic do?**

**ANS: That import statement imports a module named areallyourpetsnamederic. (But a module of this name doesnt exists in Python)**

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

**ANS: import spam**

**spam.bacon**

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

**ANS: We can use try except clause to save a program from crashing.**

1. **What is the purpose of the try clause? What is the purpose of the except clause?**

**ANS: . Try and Except clause is used to handle the errors within our code . The try block is used to check some code for errors i.e the code inside the try block will execute when there is no error in the program. Whereas the code inside the except block will execute whenever the program encounters some error in the try block.**