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

**Answer**:

|  |
| --- |
| 1. Reusable Nature: Written once used many times |
| 1. Reduces Length of Program |
| 1. Ease of use: we don’t need to run program multiple time: Rather call the function. |
| 1. Can be called anywhere |

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

**Answer**:

|  |  |
| --- | --- |
| Specifying the function | Here we define the function and not run  e.g. def Add(x,y): #function called add is specified |
| **Calling the function by function name** | Runs the code in function  e.g. Add(10,12)#function is called so it runs |

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

**Answer**:

def add(a,b):

ans=a+b

return ans

Here, def statement creates the function.

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

**Answer**:

In python anything that succeeds with **() Parenthesis** is called function. Now, creating function means that we have defined any function and it returns some value on its call. So after we have specified the function in program. We can call the function by using its function name and specifying the parameters.

def add(a,b,c): # abc are called parameters

#function definition starts with def

return(a+b+c)#for execution return statement- pass to where the function is called like to below line

print(add(20,30,40))

#function call

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

**Answer:**

|  |  |
| --- | --- |
| Global Scope | Variable created outside the defined function in global space is called Global Scope. There **is only one global scope per program** in python. |
| Local Scope | Local scope means variable created inside the defined function. There can **be n number of local scopes** in any python program depending upon number of functions defined |

x=5 #this is Global variable

def myFunction1(x): #(this is Local Variable)

x=x\*2

print('the value of x in function 1 is', x)

print(x)#this will print 5 as it is global

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

**Answer**:

Variables in local scope **disappear** after function returns value. Since, variable which are global are of importance later on. However, if we call the function again then variables come alive only until the function returns the value.

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

**Answer:**

def add(a,b,c):

sum=a+b+c

return sum #pass to where the function is called like to below line

add(1,2,3) #here it is returned.

When return keyword is called- **The python program will stop execution of the function and pass the value out to wherever the function is called**.

**Yes** we can have return value in expression. For example see below:

if x==2:

return True

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

**Answer: None**

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

**Answer:** by using **global statement**

def myFunction():

global x

x=x\*3

print('Value of x in myFunction3 is',x)

x=5

myFunction()

print(x) #it will print x as 15

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

Answer: NoneType

**11. What does the sentence import areallyourpetsnamederic do?**

**Answer**:

No Idea- It gave me **error Module not found**.

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

Answer: spam.bacon()

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

**Answer:**

If we encounter an error while executing a program it is called as an **exception** in python. Now if we don’t handle the exception the program will crash. So, we have **try and except clause**.

try:

#The program lines that may lead to crash/error

except Exception:

#in this block all the errors will pile up

So, in case we have a program which may cause an error put it under try statement. If error occurs, let the except clause handle the error. This helps the code to run while avoiding some errors and whole program is not crashed.

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

Answer:

|  |  |
| --- | --- |
| Try | Except |
| Before execution of a new program if we fear that it may have errors then- its better to use the try clause and execute the program. So that even if error occurs the try clause can execute the program and errors may be left to except clause. | After execution error if happens goes to except clause. It will find out most of errors in try clause. We can as well specify the general errors in except clause so that it will show only specified errors. |