Subroutine:

Procedures : a sequence of steps that is given an identifier and can be called to perform a sub-task

Pseudocode a procedure

PROCEDURE <procedureIdentifier>()

<statements(s)>

ENDPROCEDURE

Def <identifier>():

<statement>

Ex:

Def InputOddNumber():

Number = 0

While Number%2==0

Number=int(….)

InputOddNumber()

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Function

Built-in functions:

Useful subroutines written by other programmers and made available in module libraries

The most used ones are usually in the system library,

A function if used as part of an expression when program execution gets to the statement that includes a function call as part of the expression

FUNCTION <functionIdentifier> RETURNS <dataType> //function header

ENDFUnCTION

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Parameter argument

Global varriable location

Is available in any part of the program code, it is good programming practice to declare a variable that is only used within a subroutine as a local variable

Ex:

Total = 100

Def func1():  
 total=15

Print(total)

Func1()

Print(total)

Output:

100

100

函数中声明成全局变量就只在那个函数里是全局

Def multiply(x,y):

……………………………………

Multiply(2,9) x,y 是parameter: the place holders for the values passed into a subroutine

2,9 是arguments: the values passed to the subroutine when it is called

In pseudocode

FUNCTION <functionidentifier> (<parameterList> ) RETURNS<dataType>.

Passing parameters to functions

FUNCTION Factorial (Number ; INTEGER) :INTEGER

By value: 传参数 the actual value is transport

By reference: the location is transport

BYREF<identifier1>: <datatype>

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Ex question

Why we should use subroutines?

When a section of code would be repeated

When a piece of code is needed to perform a specific task

To support modular programming/ step wise refinement

Easier to debug/ maintain

Built-in / library routines are tried and tested

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