Define or describe the following:

Module is a group of statements that exist within a program for the purpose of performing a specific task.

Module definition the code for a module is known as a module definition. To execute the module, you write a statement that calls it.

Module header indicates the starting point of the module,

Module body is a list of statements that belong to the module

Calling a module to call a module in a program we type call and then the module name. At this point the program stops what it is doing and jumps down to the module executes and then jumps back up to the program.

Control of program This simply means that the module takes control of the program's execution.

Flowcharting a module This simply means that the module takes control of the program's execution. The name of the module that is being called is written on the symbol.

Top Down Design The overall task that the program is to perform is broken down into a series of subtasks. Each of the subtasks is examined to determine whether it can be further broken down into more subtasks. This step is repeated until no more subtasks can be identified. Once all of the subtasks have been identified, they are written in code.

Hierarchy Chart shows boxes that represent each module in a program. The boxes are connected in a way that illustrates their relationship to one another.

Local variable In most programming languages, a variable that is declared inside a module is called a local variable

Scope of a variable Programmers commonly use the term scope to describe the part of a program in which a variable may be accessed

Duplicate variable names In most programming languages, you cannot have two variables with the same name in the same scope

Argument An argument is any piece of data that is passed into a module when the module is called.

Parameter or parameter variable A parameter is a variable that receives an argument that is passed into a module

Passing an argument to a module by value Passing an argument by value means that only a copy of the argument's value is passed into the parameter variable.

Passing an argument to a module by reference Passing an argument by reference means that the argument is passed into a special type of parameter known as a reference variable. When a reference variable is used as a parameter in a module, it allows the module to modify the argument in the calling part of the program

Passing multiple arguments when passing multiple arguments we separate them with a comma inside of a parentheses. They will correspond to the declarations in the module header respectively.

Order of passing multiple arguments to parameters (parameter variables)

Global variable is a variable that is visible to every module in the program. A global variable's scope is the entire program, so all of the modules in the program can access a global variable. In most programming languages, you create a global variable by writing its declaration statement outside of all the modules, usually at the top of the program

Global constant same, but we set it as a constant.

Answer the following:

What is the scope of a global variable and how is this different than the scope of a local variable?

A global variable's scope is the entire program, so every module has access to it. Whereas a local variable has a scope of the module it is being used in, and thus the same variable name could be used inside two different modules as long as it hasn't been declared locally.

Why is a global constant a better practice than a global variable?

Because a global constant's value cannot be changed during the program's execution, you do not have to worry about many of the potential hazards that are associated with the use of global variables.

List the reasons why it is a good idea to code using modules?

Simpler code, Code reuse, Better Testing, Faster development, and easier facilitation of teamwork.

Do you always have to pass arguments when using modules?

No, not necessarily.

Write a module header using ShowMessage as your module name and accept 2 parameter variables with integer datatype.

Module ShowMessage(integer value1, integer value2)

Design a module called timesTen. The module should accept an integer argument. When the module is called it should display the product of its' argument multiplied times ten.

Module timesTen (interger value)

Declare integer result

Set result= value*10

End Module

From the TEXT book do the following problems:

Page 116 #3, 4, 5, 6 and 7.

3.d 4.b 5.c 6.a 7.d

Page 118 Write the pseudocode for #6

We did this in class and submitted it through blackboard.