

**QUESTION: Explain the difference between a function and a procedure!**

ANSWER: A function is a block of code that performs a specific task and returns a value. A procedure is a block of code that performs a specific task but does not return a value. The main difference is that a function returns a value, while a procedure does not. For example, a function might calculate the sum of two numbers and return the result, while a procedure might simply print the sum of two numbers.

**QUESTION: What is the difference between a variable and a constant?**

ANSWER: A variable is a storage location in memory that contains a value that can change. A constant is a value that is fixed and does not change. The main difference is that a variable's value can be modified, while a constant's value is fixed. For example, the number 5 is a constant, while the variable x can hold the value 5 or any other number.

**QUESTION: What is the difference between a loop and a conditional statement?**

ANSWER: A loop is a statement that repeats a block of code a certain number of times or until a certain condition is met. A conditional statement is a statement that executes a block of code only if a certain condition is true. The main difference is that a loop repeats code, while a conditional statement only executes code once based on a condition. For example, a loop might print the number 1 to 10, while a conditional statement might print "Hello" only if a variable is greater than 0.

**QUESTION: What is the difference between a list and a dictionary?**

ANSWER: A list is a collection of items that are ordered and can be accessed by index. A dictionary is a collection of items that are not ordered and are accessed by key. The main difference is that a list is ordered and accessed by index, while a dictionary is unordered and accessed by key. For example, a list might contain the numbers 1, 2, 3, and a dictionary might contain the key "name" with the value "John".

**QUESTION: What is the difference between a tuple and a set?**

ANSWER: A tuple is a collection of items that are ordered and cannot be changed. A set is a collection of items that are not ordered and cannot contain duplicate items. The main difference is that a tuple is ordered and immutable, while a set is unordered and mutable. For example, a tuple might contain the numbers 1, 2, 3, and a set might contain the numbers 1, 2, 3.

**QUESTION: What is the difference between a string and a list of characters?**

ANSWER: A string is a sequence of characters that are stored in memory. A list of characters is a collection of individual characters that can be accessed by index. The main difference is that a string is a single entity, while a list of characters is a collection of individual characters. For example, the string "hello" is a single entity, while the list ['h', 'e', 'l', 'l', 'o'] is a collection of individual characters.