

1. What is a variable in programming?

A variable is a named storage location in a computer program that is used to store data. The data stored in a variable can be a number, text, character, or another type of information, depending on the programming language. A variable has a name so that the programmer can easily refer to the stored value and use it in the program.

2. Why are variables necessary in a program?

Variables are necessary because programs need a way to store and remember information while they run. They allow a program to keep data, reuse it in different parts of the program, and change its value when necessary. Variables also make programs easier to understand, organize, and maintain.

3. How do variables allow a program to store and manipulate data?

Variables allow a program to store data by assigning a value to a named memory location. The program can then use the variable in calculations, comparisons, and other operations. The value stored in a variable can also be changed when new information is received. For example, if **price = 10** and **quantity = 3**, the program can multiply them to calculate the total: **total = price × quantity**, which gives 30.