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**The role of Variables**

1.They are used as storage containers: Variables are like labelled containers used to hold data within a program. They have names (identifiers) that represent a specific memory location.

2.They are dynamic containers: They can hold various types of data, and their contents can change during program execution.

**The role of Data Types**

1.Used to categorize data: Data types define the kind of data that a variable can hold, such as integers, floating-point numbers, characters, strings, boolean values, etc.

2.To control memory allocation: Different data types consume different amounts of memory. For instance, integers might require a fixed amount of memory, while the memory required for strings can be more dynamic based on their length.

3.Limitation to the kind of operations allowed: Each data type has specific operations that can be performed on it. For example, you can perform arithmetic operations on numerical types and concatenation or manipulation operations on string types.

**How variables and data types are used in programming to store and manipulate data:**

1.In Declaration to create a variable, you declare its name and data type. For example, in Python, you can declare an integer variable like this: count = 5.

2.In Assignment of values After declaring a variable, you can assign a value of the specified data type to it. For example: count = 5.

3. To store data;Variables store data in computer memory. The memory allocated depends on the data type, as different data types require varying amounts of memory.

4.In Data Manipulation; Variables enable you to perform various operations on the data they store. For instance, you can perform arithmetic operations on numeric variables, concatenate strings, or compare values using boolean variables.

5.Compatibility; Variables with compatible data types can interact and exchange data. For example, you can pass data between functions or share information between different parts of your program.

6. For Readability and Maintenance; Proper use of data types and meaningful variable names improve the readability and maintainability of your code, making it easier for other developers to understand and work with your code.