**Code**

list1 = ['S', 'K', 'I', 'L', 'L', 'E', 'D', 'G', 'E']

string = "".join(list1)

print(string)

print(type(string))

**1. Initialize the List**

list1 = ['S', 'K', 'I', 'L', 'L', 'E', 'D', 'G', 'E']

* A list named list1 is created containing individual characters as elements: ['S', 'K', 'I', 'L', 'L', 'E', 'D', 'G', 'E'].

**2. Use "".join() to Combine List Elements**

string = "".join(list1)

* The join() method is used to concatenate all elements of the list into a single string.
* The syntax is:
  + "separator".join(iterable)
  + The "separator" is placed between each element of the iterable (list in this case).
  + Here, the separator is an empty string "", meaning no character will be placed between the elements.

**How It Works:**

* The join() method loops through each element of list1 and concatenates them:
  1. Start with an empty string: "".
  2. Add the first element 'S': Result → "S".
  3. Add the second element 'K': Result → "SK".
  4. Add the third element 'I': Result → "SKI".
  5. Continue until all elements are added.
* Final string: "SKILLEDGE"

**3. Print the Resulting String**

print(string)

* The print() function outputs the value of the variable string.
* Output:

SKILLEDGE

**4. Check the Data Type**

print(type(string))

* The type() function is used to check the data type of the string variable.
* Since the list elements have been joined into a single string, the data type of string is <class 'str'>.

Output:

<class 'str'>

**Key Concepts in the Code**

1. **Lists**:
   * list1 is a list containing individual characters.
2. **The join() Method**:
   * Used to concatenate elements of an iterable (like a list) into a single string.
   * The separator defines what will be placed between each element. In this case, "" means no separator.
3. **Strings**:
   * Strings are immutable sequences of characters in Python.
   * The resulting variable string is a single string containing all elements of list1.
4. **Data Types**:
   * list1 is of type <class 'list'> before joining.
   * After joining, string is of type <class 'str'>.