**STRINGS**

str1.append(str2)

str1.length()

str1.size()

In Python Strings are Inmutable but in C++ you can change the string by assigning

However, cin considers a space (whitespace, tabs, etc) as a terminating character,

which means that it can only display a single word(even if you type many words):

**To get the whole string with spaces:**

string fullName;

cout << "Type your full name: ";

getline (cin, fullName);

cout << "Your name is: " << fullName;

// Type your full name: John Doe

// Your name is: John Doe

**C++ Math**

<https://www.w3schools.com/cpp/cpp_math.asp>

**C++ References**

<https://www.w3schools.com/cpp/cpp_references.asp>

**C++ Address**

And why is it useful to know the memory address?

**References** and **Pointers** (which you will learn about in the next chapter) are important in C++, because they give you the ability to manipulate the data in the computer's memory - **which can reduce the code and improve the perfomance**.

These two features are one of the things that make C++ stand out from other programming languages, like [Python](https://www.w3schools.com/python/default.asp) and [Java](https://www.w3schools.com/java/default.asp).

**C++ functions**

void swapNums(int &x, int &y) {  
  int z = x;  
  x = y;  
  y = z;  
}  
  
int main() {  
  int firstNum = 10;  
  int secondNum = 20;  
  
  cout << "Before swap: " << "\n";  
  cout << firstNum << secondNum << "\n";  
  
  // Call the function, which will change the values of firstNum and secondNum  
  swapNums(firstNum, secondNum);  
  
  cout << "After swap: " << "\n";  
  cout << firstNum << secondNum << "\n";  
  
  return 0;  
}

## **C++ Classes**