C++ Constants/Literals

In this lesson, you will be introduced to constants in C++.

We'll cover the following

Constants or literals

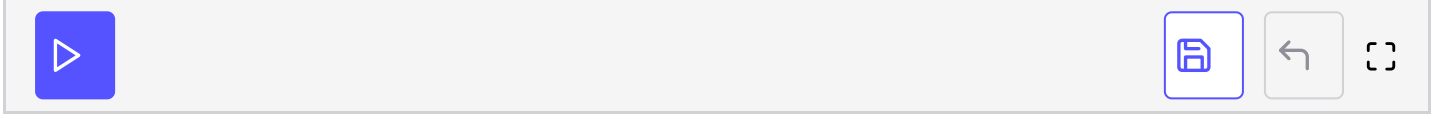
Let's write a program in which we will overwrite the value of a variable.

Run the code below and see the output!

```
#include <iostream>

using namespace std;

int main() {
  int number = 10;
  cout << "Number = " << number << endl;
  number = 20;
  cout << "Number = " << number << endl;
  number = 30;
  cout << "Number = " << number << endl;
}
```

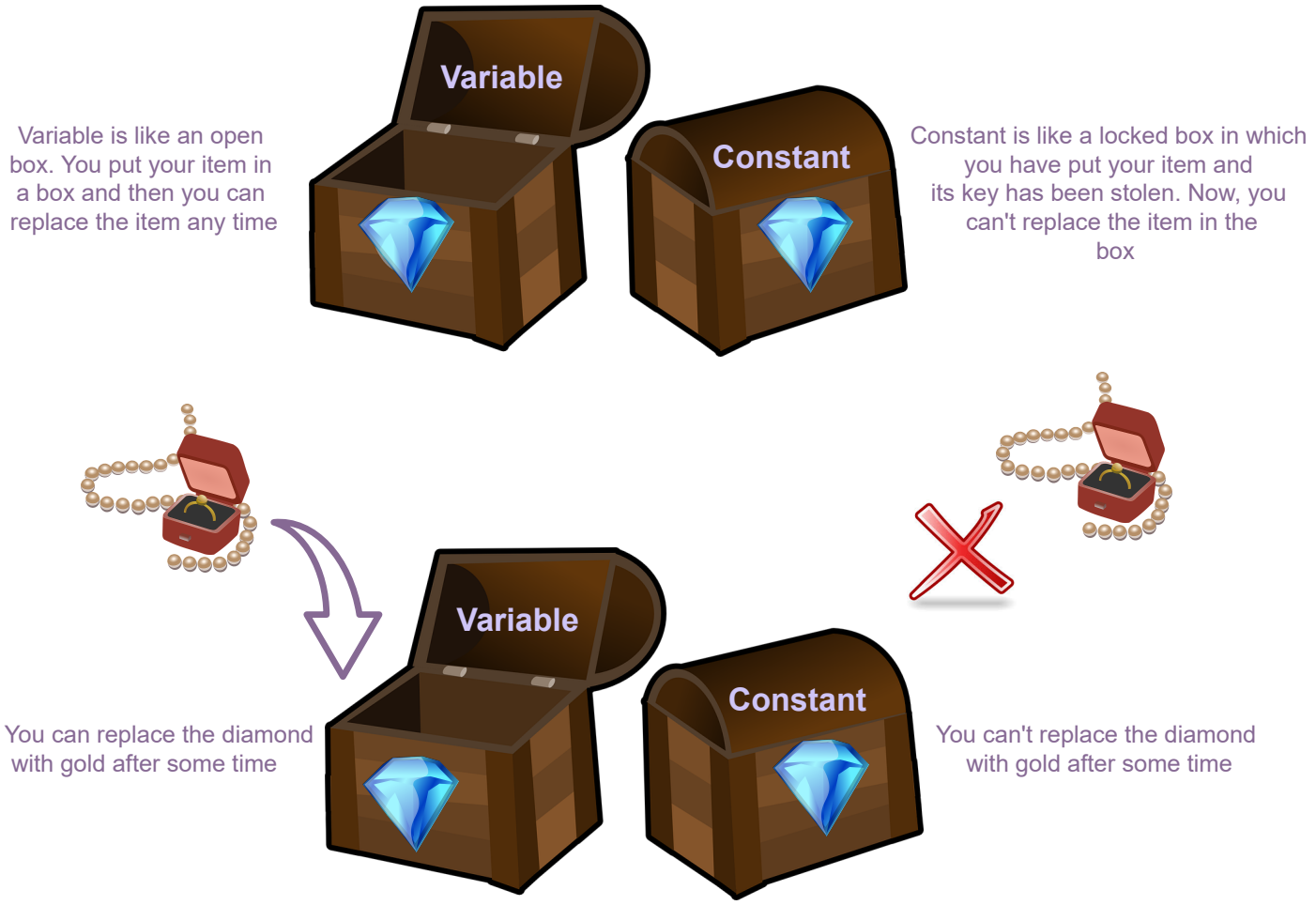


Variables in C++

In the above code, we have declared a variable `number`. We see that we can overwrite the value of the `number` during the execution of the program. Initially, the value of the `number` is `10`, then `20`, and finally `30`. What if we want to declare a variable whose value remains fixed throughout the program execution? Here, constants come in.

***Constants** are similar to variables except that we can't*

change their value during the code execution.



Difference between variables and constants

Define constants using the `const` keyword

In C++, we can use the `const` keyword to declare a constant. The basic syntax for creating a constant is:

```
const constant_datatype constant_name = constant_value ;
```

> 📝 **Note:** Don't worry about the constant data types yet. We will cover these in detail in the next chapter. In this chapter, we will just have to work with `int`. `int` is used to store an integer value in a constant. A constant declared with `int` data type cannot store floating-point values.

Example program

Let's write a program in which we will define a constant and print its value.

Run the code below and see the output!

```cpp
#include <iostream>

using namespace std;

int main() {
  const int number = 10;
  cout << "Number = " << number << endl;
}
```

Constants in C++

Line No. 6: Declares a constant `number` that can take an integer value. We store `10` in a `number`.

Line No. 7: Displays the value of the `number`

> ✕ **Common programming error:** In C++, you have to initialize a constant at the time of its declaration. If you don't initialize a constant at the time of creating it, an error will occur.

Q

What is the output of the following code?

```cpp
int main() {
  const int number = 10;
  cout << "Number = " << number << endl;
  number = 20;
}
```

Retake Quiz

Let’s test your knowledge by solving a simple challenge.