# Abstraction in C++

Elementrix Classes

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❏ Abstraction is the concept of exposing only the required essential characteristics and behavior with respect to a context.

❏ Hiding of data is known as data abstraction. In object oriented programming language this is implemented automatically while writing the code in the form of class and object.

❏ Abstraction is one of the feature of Object Oriented Programming, where you show only relevant details to the user and hide irrelevant details. You can understand with this example, when you send an email to someone you just click send and you get the success message, what actually happens when you click send, how data is transmitted over network to the recipient is hidden from you (because it is irrelevant to you).
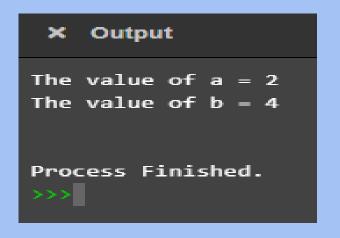
# Real Life Example of Abstraction in C++

❏ Consider a real life example of a man driving a car. The man only knows that pressing the accelerators will increase the speed of car or applying brakes will stop the car but he does not know about how on pressing accelerator the speed is actually increasing, he does not know about the inner mechanism of the car or the implementation of accelerator, brakes etc in the car.

# Example Program:

```cpp
#include <iostream>
using namespace std;
class abstraction {
    private:
        int a, b;

    public:
        // method to set value of private members
        void value(int x, int y) {
            a = x;
            b = y;
        }
        void display() {
            cout << "The value of a = " << a << endl;
            cout << "The value of b = " << b << endl;
        }
};
```

```
18
19 ▾ int main() {
20        abstraction obj;
21        obj.value(2, 4);
22        obj.display();
23
24    return 0;
25  }
```

```
✕  Output

The value of a = 2
The value of b = 4


Process Finished.
>>>
```

In the above example, we are not allowed to access the variables a and b directly, however one can call the function value() to set the values in a and b and the function display() to display the values of a and b.

# पढ़िए और पढ़ाइये

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