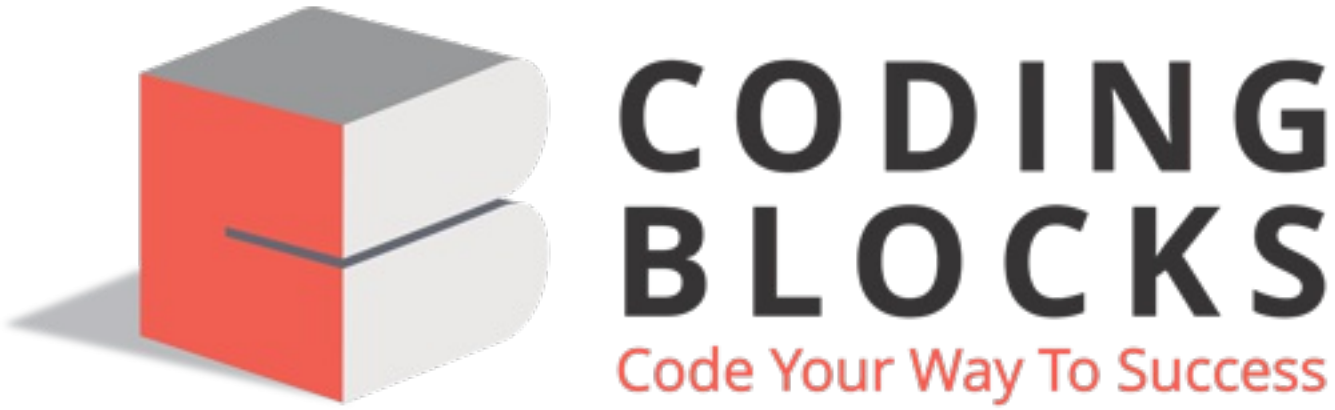
References in C++



Reference Variable

- A reference variable is an alias, that is, another name for an already existing variable/memory instance.
- Once a reference is initialized with a variable, either the variable name or the reference name may be used to refer to the variable.
- The reference variable once defined to refer to a variable canâ€™t be changed to point to other variable.

Defining Reference Variable

- Reference variables are defined by using & symbol in the definition.
- Since they do not have any storage of their own and are just another name for the existing storage, they need to initialized before using them.
- For e.g.

```
int x;
```

```
int & y = x.
```

The exisiting memory X will now also have another name Y.

Reference Variable VS Pointer Variable

- You cannot have NULL references. You must always be able to assume that a reference is connected to a legitimate piece of storage.
- Once a reference is initialized to an object, it cannot be changed to refer to another object. Pointers can be pointed to another object at any time.
- A reference must be initialized when it is created. Pointers can be initialized at any time.