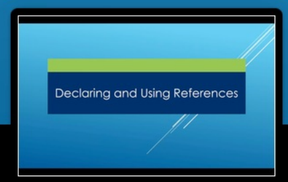
Declaring and Using References


int
var
0x12ab
33


Declaring and Using References

int	var	0x12ab	33

var_alias

Declaring and using references

```
int int_value {45};
double double_value{33.65};

int& reference_to_int_value_1{int_value};  // Assign throught initialization
int& reference_to_int_value_2 = int_value; // Assign throught assignment
double& reference_to_double_value_1 {double_value};

//You have to declare and initialize in one statement
//int& some_reference; // Error

std::cout << "int_value : " << int_value << std::endl;
std::cout << "double_value : " << double_value << std::endl;
std::cout << "reference_to_int_value_1 : " << reference_to_int_value_1 << std::endl;
std::cout << "reference_to_int_value_2 : " << reference_to_int_value_2 << std::endl;
std::cout << "reference_to_double_value1 : "  << reference_to_double_value_1 << std::endl;
std::cout << "&int_value : " << &int_value << std::endl;
std::cout << "&double_value : " << &double_value << std::endl;
std::cout << "&reference_to_int_value_1 : " << &reference_to_int_value_1 << std::endl;
std::cout << "&reference_to_int_value_2 : " << &reference_to_int_value_2 << std::endl;
std::cout << "&reference_to_double_value_1 : " << &reference_to_double_value_1 << std::endl;
std::cout << "sizeof(int) : " << sizeof(int) << std::endl;
std::cout << "sizeof(int&) : " << sizeof(int&) << std::endl;
std::cout << "sizeof(reference_to_int_value_1) : " << sizeof(reference_to_int_value_1) << std::endl;
```

Modify data through reference

```
//Modify through reference : changes reflect to original variable
std::cout << std::endl;
std::cout << "Modifying data through reference : " << std::endl;

reference_to_int_value_1 = 55;

//Print out after modification of int_value
std::cout << "int_value : " << int_value << std::endl;
std::cout << "double_value : " << double_value << std::endl;
std::cout << "reference_to_int_value_1 : " << reference_to_int_value_1 << std::endl;
std::cout << "reference_to_int_value_2 : " << reference_to_int_value_2 << std::endl;
std::cout << "reference_to_double_value1 : "  << reference_to_double_value_1 << std::endl;
std::cout << "&int_value : " << &int_value << std::endl;
std::cout << "&double_value : " << &double_value << std::endl;
std::cout << "&reference_to_int_value_1 : " << &reference_to_int_value_1 << std::endl;
std::cout << "&reference_to_int_value_2 : " << &reference_to_int_value_2 << std::endl;
std::cout << "&reference_to_double_value_1 : " << &reference_to_double_value_1 << std::endl;
std::cout << "sizeof(int) : " << sizeof(int) << std::endl;
std::cout << "sizeof(int&) : " << sizeof(int&) << std::endl;
std::cout << "sizeof(reference_to_int_value_1) : " << sizeof(reference_to_int_value_1) << std::endl;
```

Modify data through original variable

```
//Modifying data directly : changes reflect even in references
std::cout << std::endl;
std::cout << "Modifying data directly : " << std::endl;
double_value = 9.99;

//Print out after modification of double_value
std::cout << "int_value : " << int_value << std::endl;
std::cout << "double_value : " << double_value << std::endl;
std::cout << "reference_to_int_value_1 : " << reference_to_int_value_1 << std::endl;
std::cout << "reference_to_int_value_2 : " << reference_to_int_value_2 << std::endl;
std::cout << "reference_to_double_value1 : "  << reference_to_double_value_1 << std::endl;
std::cout << "&int_value : " << &int_value << std::endl;
std::cout << "&double_value : " << &double_value << std::endl;
std::cout << "&reference_to_int_value_1 : " << &reference_to_int_value_1 << std::endl;
std::cout << "&reference_to_int_value_2 : " << &reference_to_int_value_2 << std::endl;
std::cout << "&reference_to_double_value_1 : " << &reference_to_double_value_1 << std::endl;
std::cout << "sizeof(int) : " << sizeof(int) << std::endl;
std::cout << "sizeof(int&) : " << sizeof(int&) << std::endl;
std::cout << "sizeof(reference_to_int_value_1) : " << sizeof(reference_to_int_value_1) << std::endl;
```