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The C++ 20 Masterclass : From Fundamentals to Advanced

Learn and Master Modern C++ From Beginning to Advanced in Plain English : C++11, C++14, C++17, C++20 and More!

4.7 ★★★★☆

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Section :Variable Lifetime and Scope

Variable Lifetime

Lifetime

The period of time in which a variable is alive in memory. It becomes alive when you declare it and it is killed (wiped out) from memory at some point.

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Storage duration

- local (block, automatic)
- static
- dynamic

Storage duration

```cpp
1   #include <iostream>
2
3   int static_var2{80}; // static duration : dies when program ends
4
5   void some_function(){
6       int local_var3 {30}; // local (automatic) duration : dies at end of block
7       static int static_var1 {40};// static duration : dies when program ends
8       int dynamic_var1 {50}; // You decide when it dies
9   }
10
11
12  int main(int argc, char **argv)
13  {
14      int local_var1 {10}; // local (automatic) duration : dies at end of block
15      int dynamic_var2 {60}; // You decide when it dies
16
17      {
18          int local_var2 {20}; // local (automatic) duration : dies at end of block
19          int dynamic_var3{70}; // You decide when it dies
20      }
21      return 0;
22  }
```

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Variable Scope

Scope

A region in your code where a variable name can be mentioned. You may be reading from it, writing into it, basically using it in any conceivable way.

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Scope

Trying to use a variable out of it's scope will result in a compiler error.

```cpp
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```

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