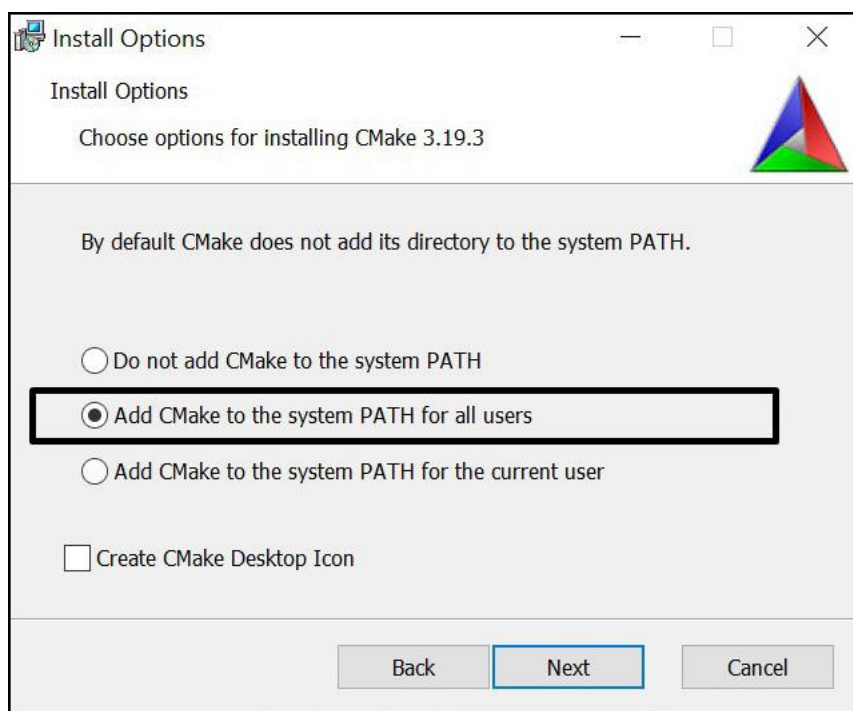
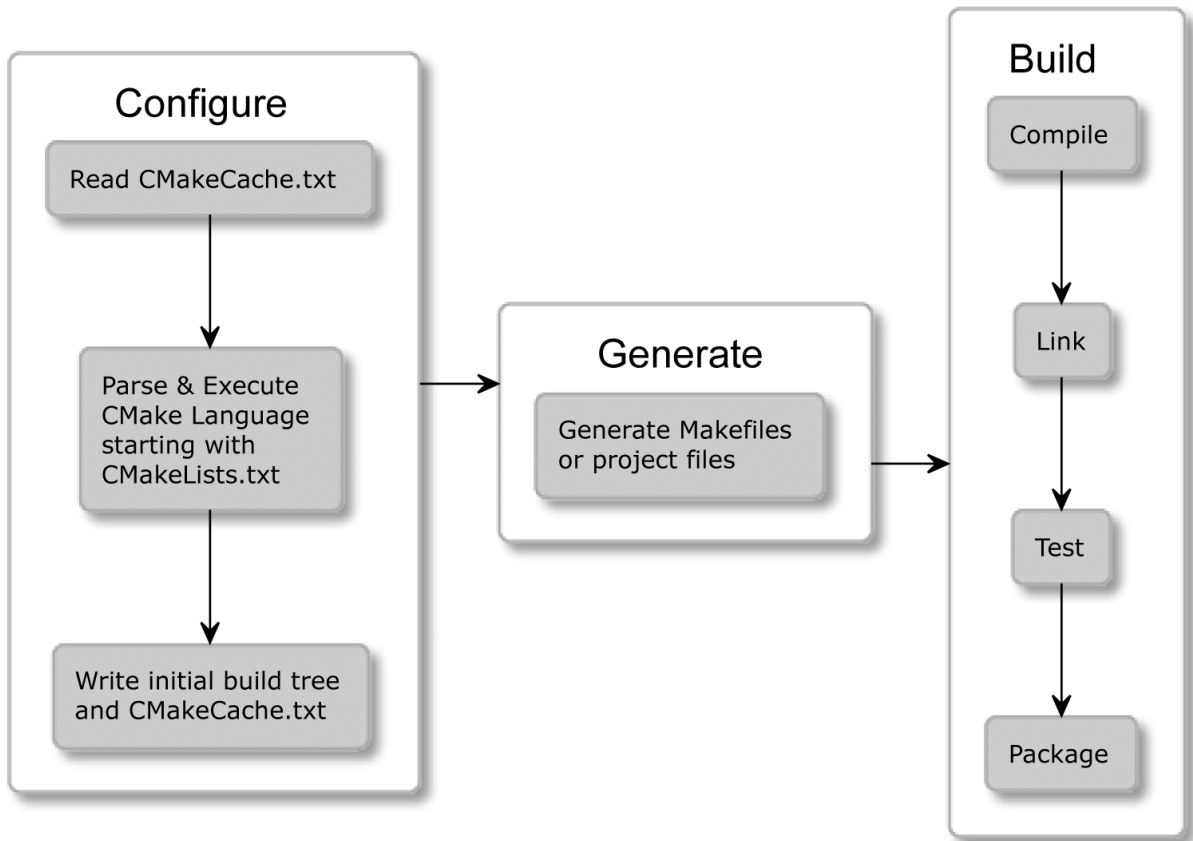
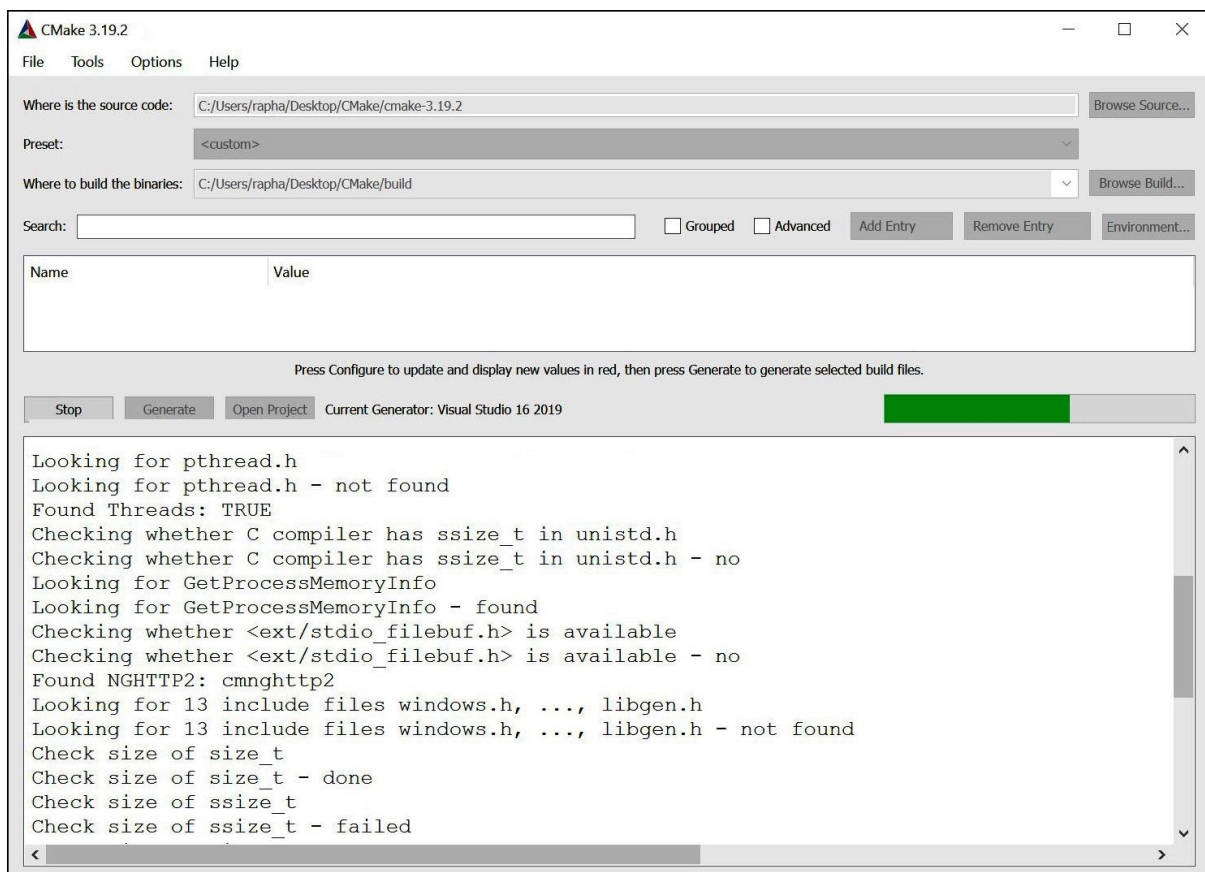
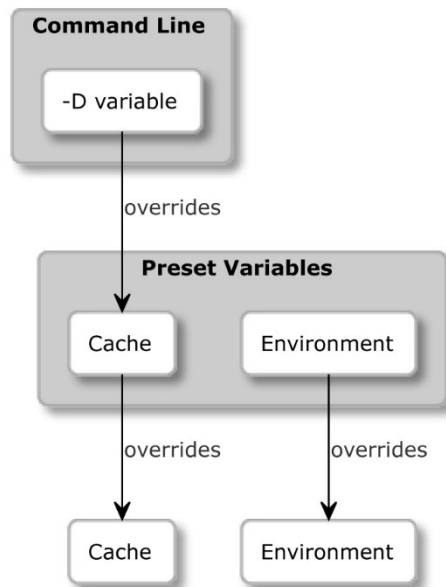


Chapter 01: First Steps with CMake



Variable Precedence



```
root@deb94335c57f: ~  
Page 1 of 1  
CMAKE_BUILD_TYPE  
CMAKE_INSTALL_PREFIX /usr/local  
  
CMAKE_BUILD_TYPE: Choose the type of build, options are: None Debug Release RelWithDebInfo MinSizeRel ...  
Press [enter] to edit option Press [d] to delete an entry CMake Version 3.16.3  
Press [c] to configure  
Press [h] for help Press [q] to quit without generating  
Press [t] to toggle advanced mode (Currently Off)
```

Chapter 02: The CMake Language

`message("hello" world)`

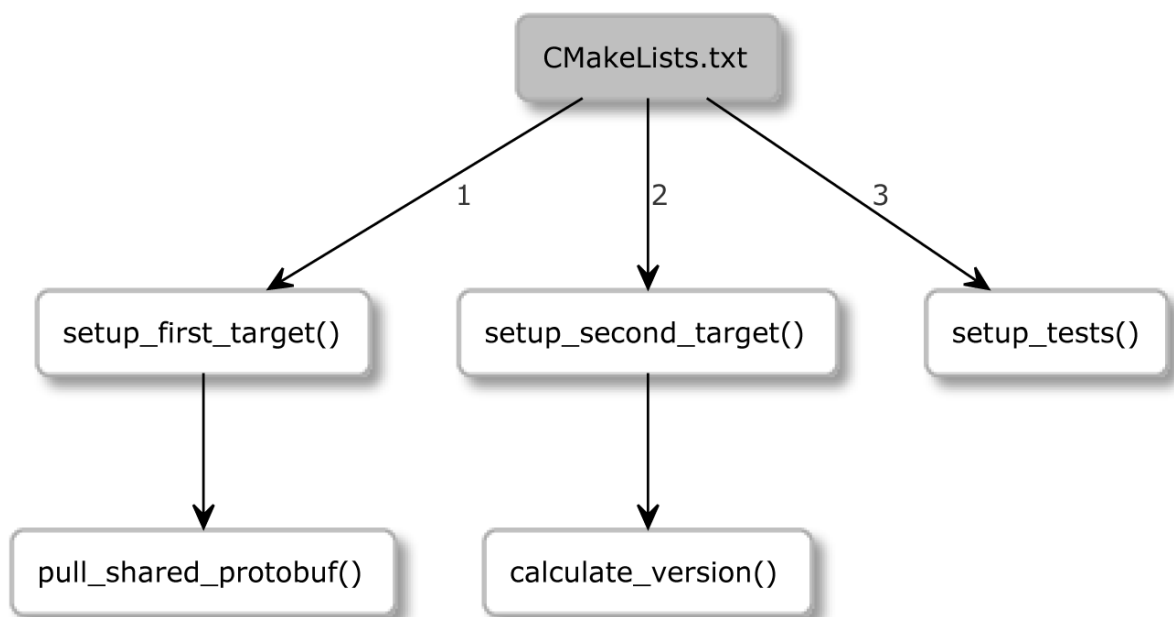
`message` `("hello" world)`
name arguments

`argument\ ent\;1`

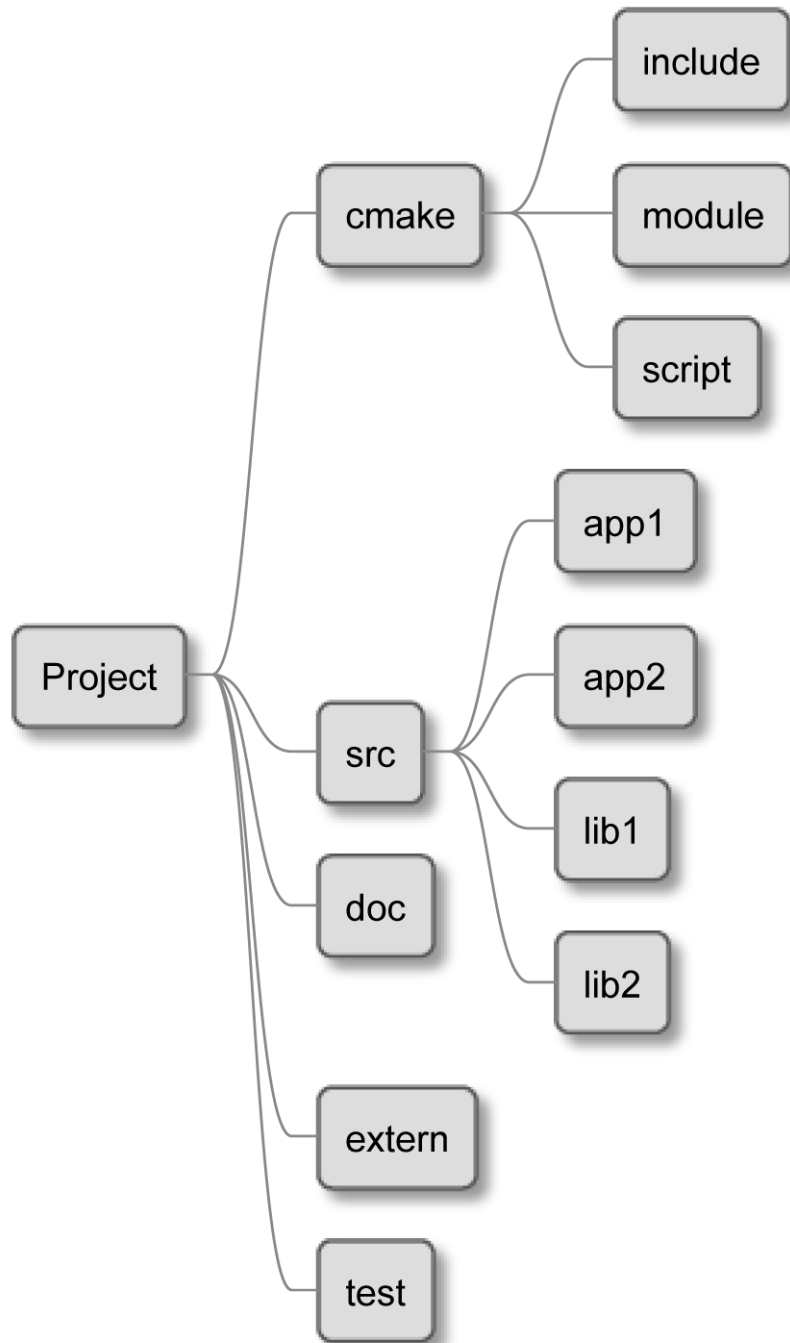
a single argument

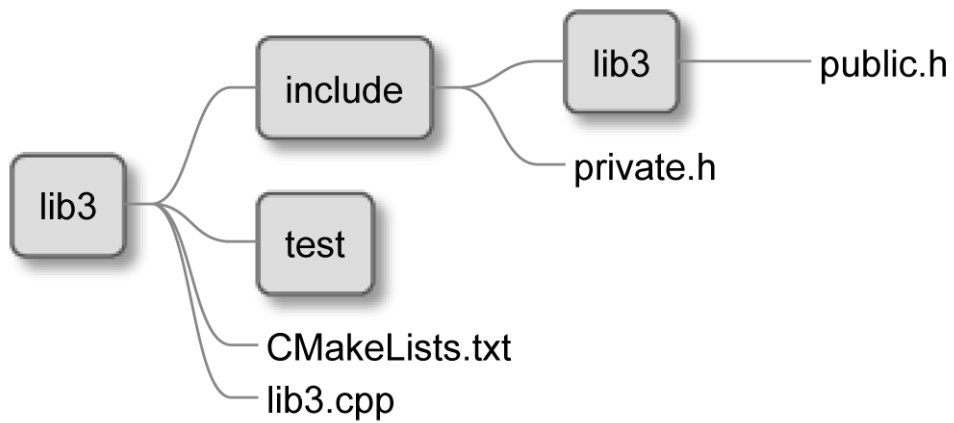
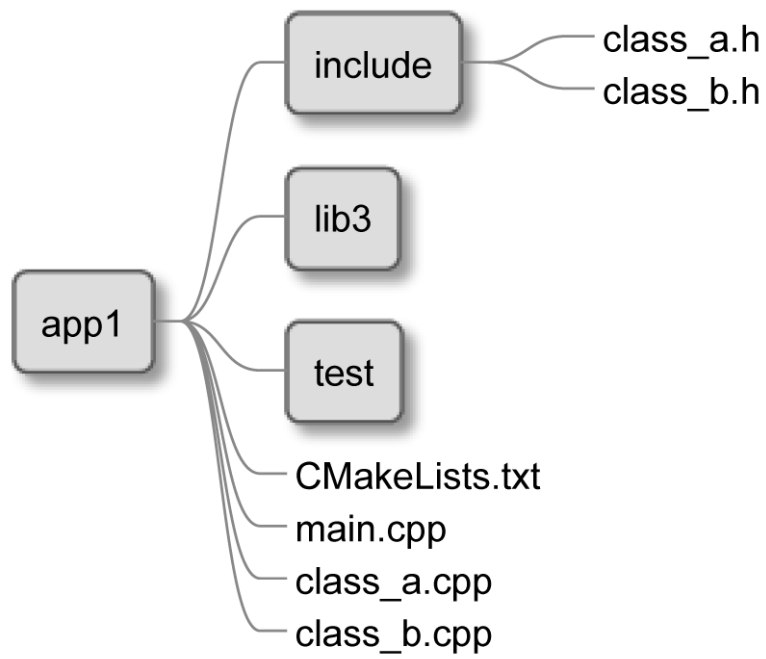
`arg;ume nts`

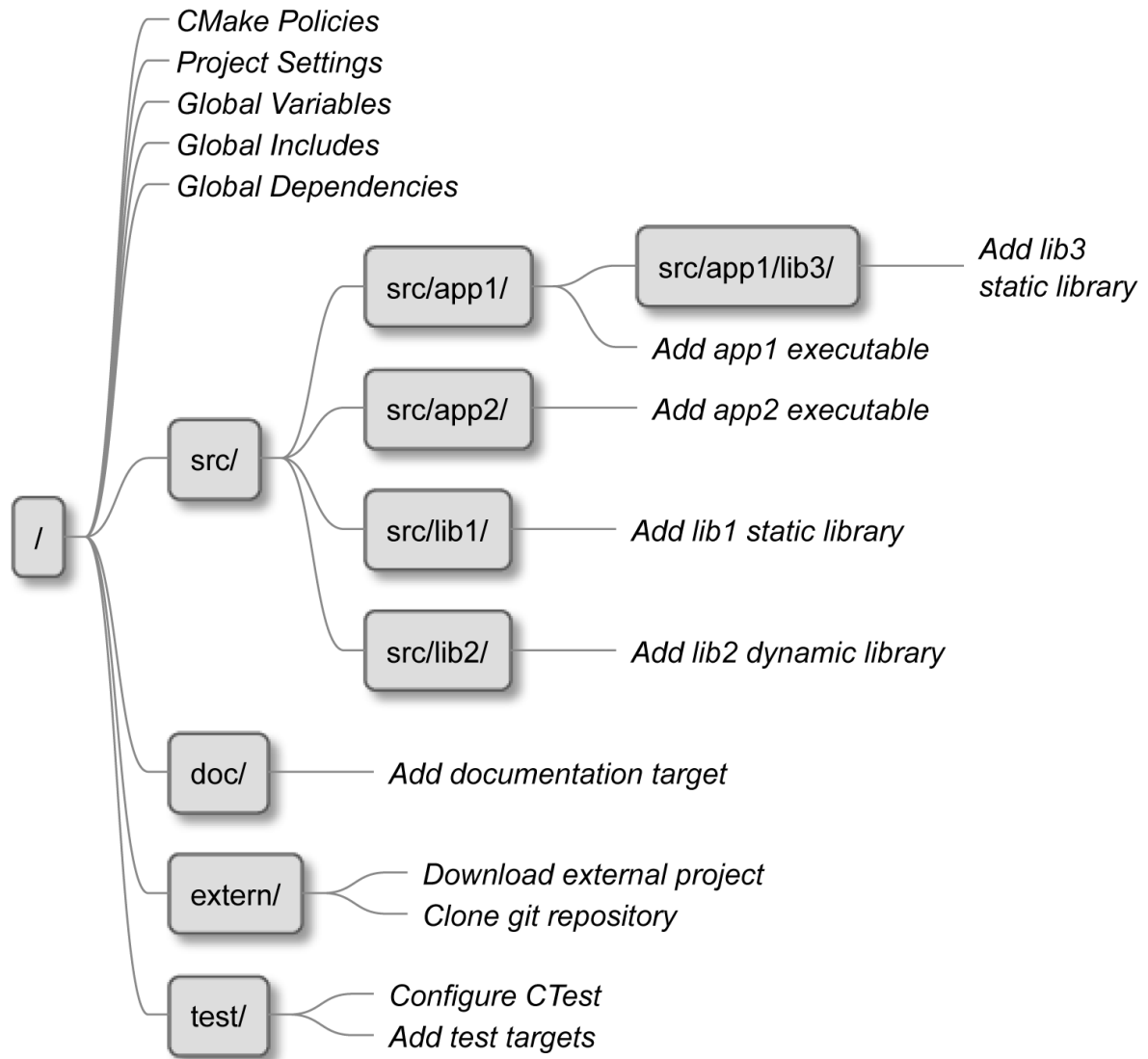
three arguments



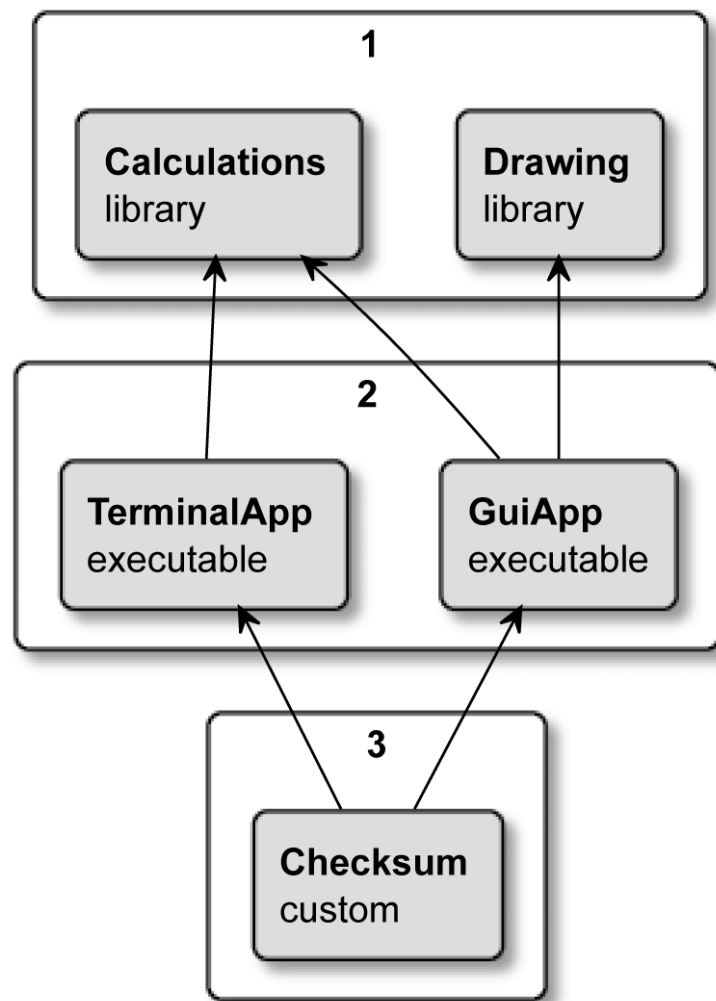
Chapter 03: Setting Up Your First CMake Project



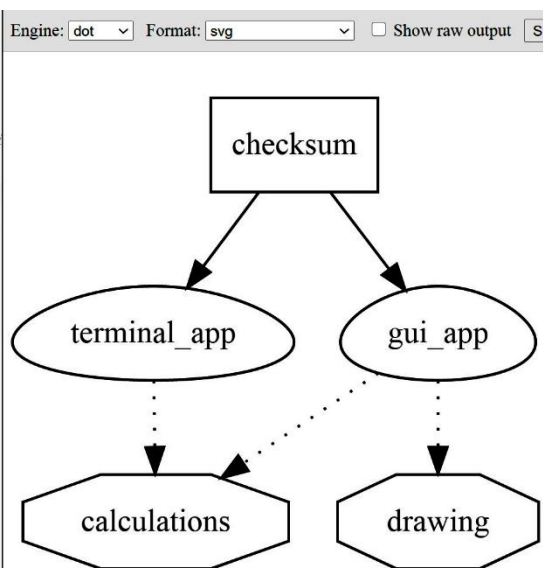


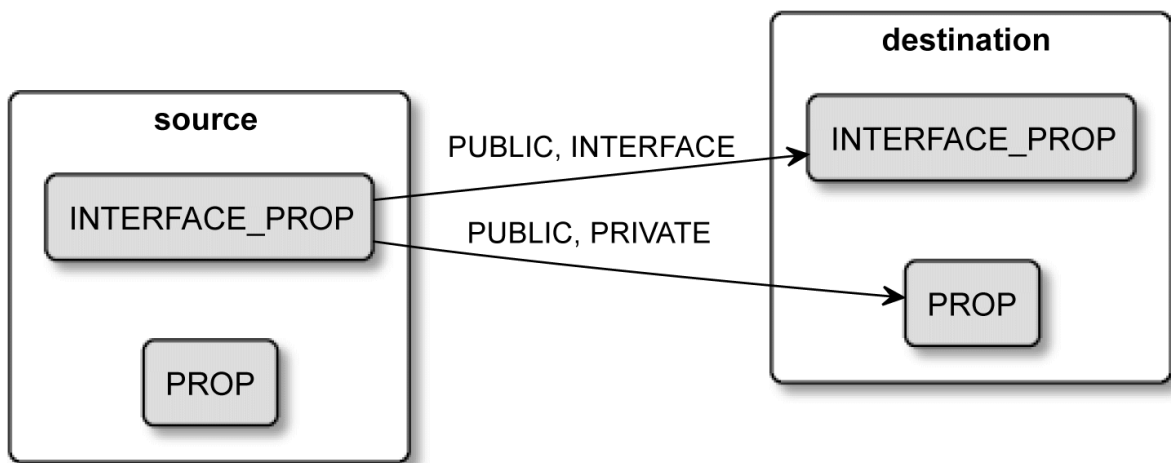


Chapter 04: Working with Targets



```
1- digraph "BankApp" {
2- node [
3-   fontsize = "12"
4- ];
5- "node0" [ label = "calculations", shape = octagon ];
6- "node1" [ label = "checksum", shape = box ];
7- "node2" [ label = "gui_app", shape = egg ];
8- "node2" -.-> "node0" [ style = dotted ] // gui_app -> calculati
9- "node3" [ label = "drawing", shape = octagon ];
10- "node2" -.-> "node3" [ style = dotted ] // gui_app -> drawing
11- "node1" -.-> "node2" // checksum -> gui_app
12- "node4" [ label = "terminal_app", shape = egg ];
13- "node4" -.-> "node0" [ style = dotted ] // terminal_app -> cal
14- "node1" -.-> "node4" // checksum -> terminal_app
15- }
16-
```

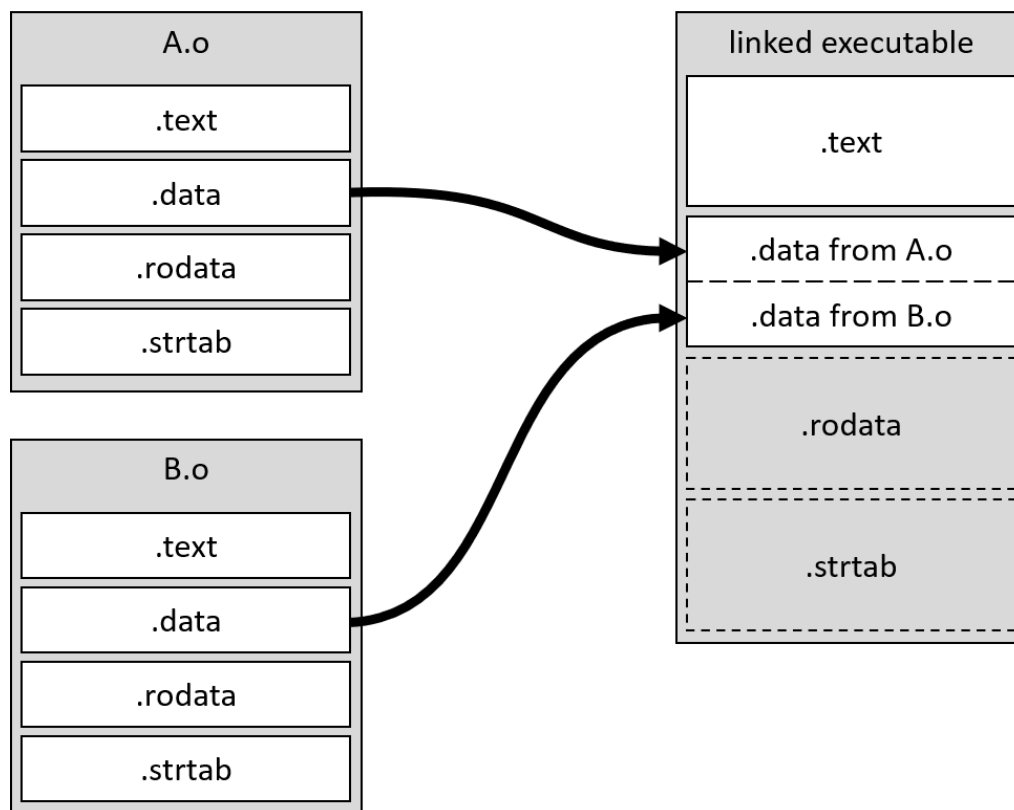
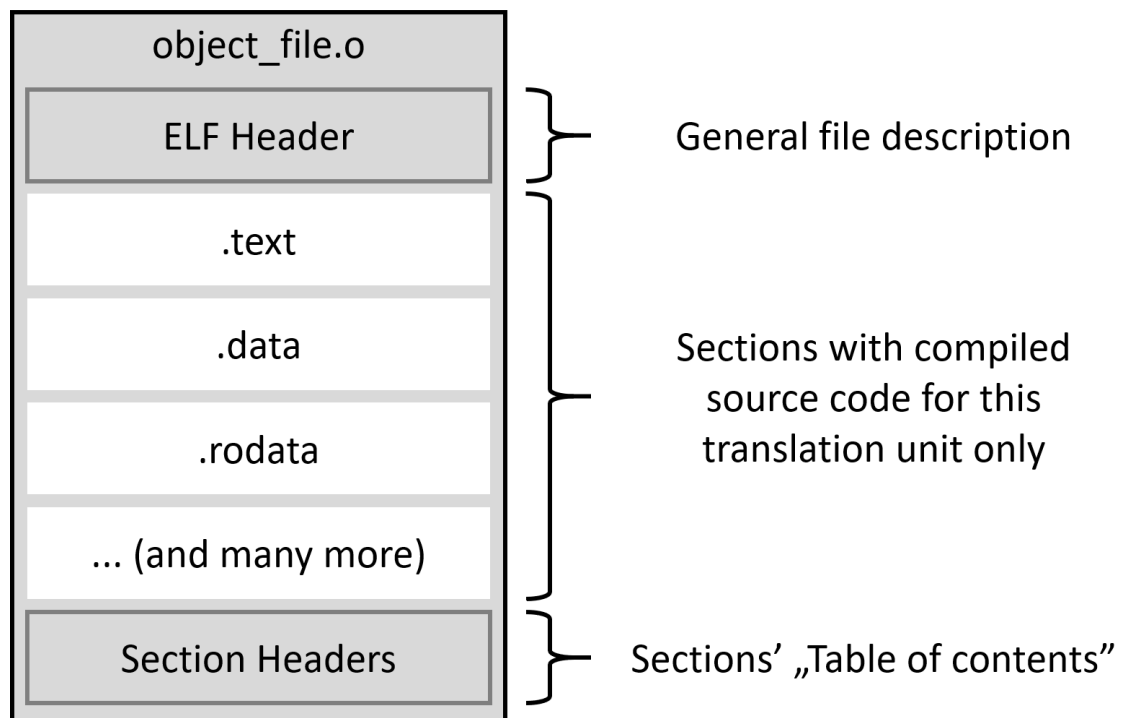


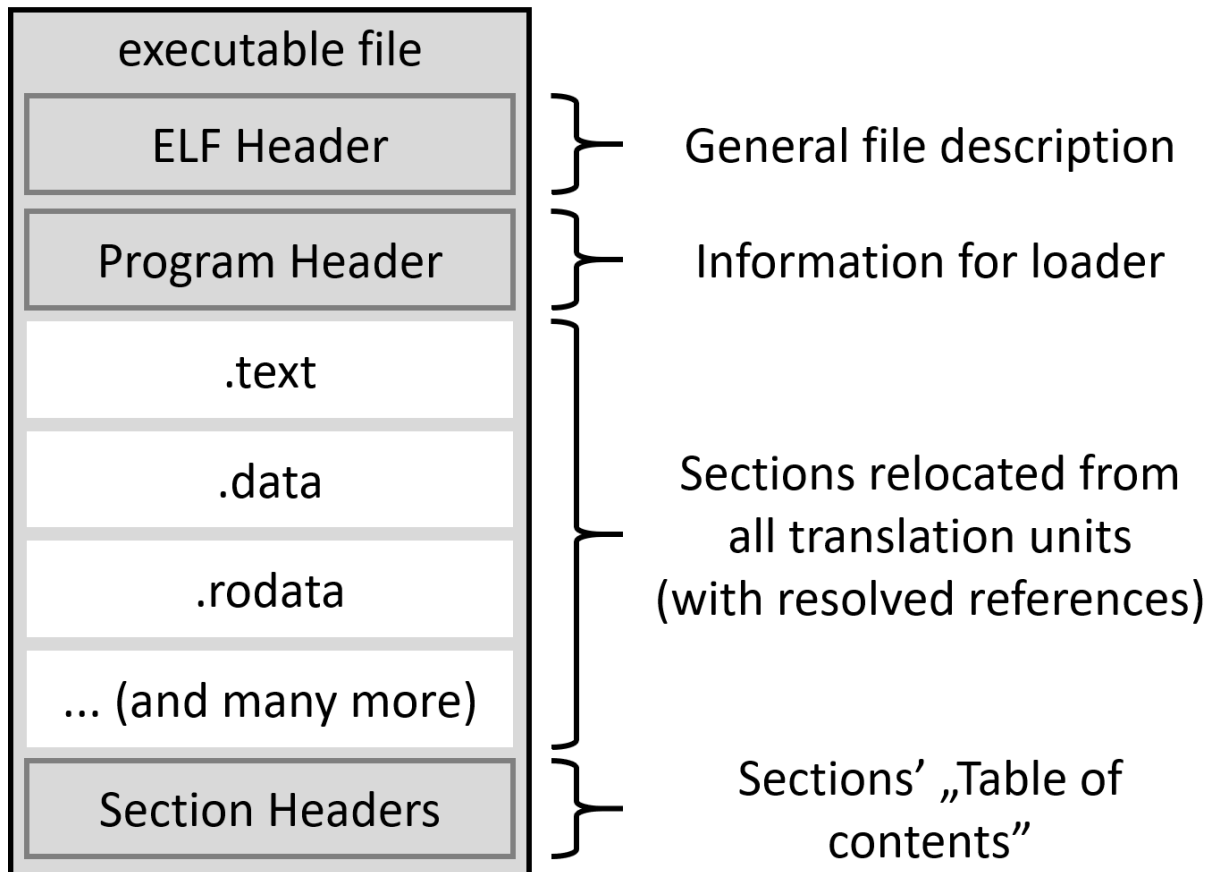
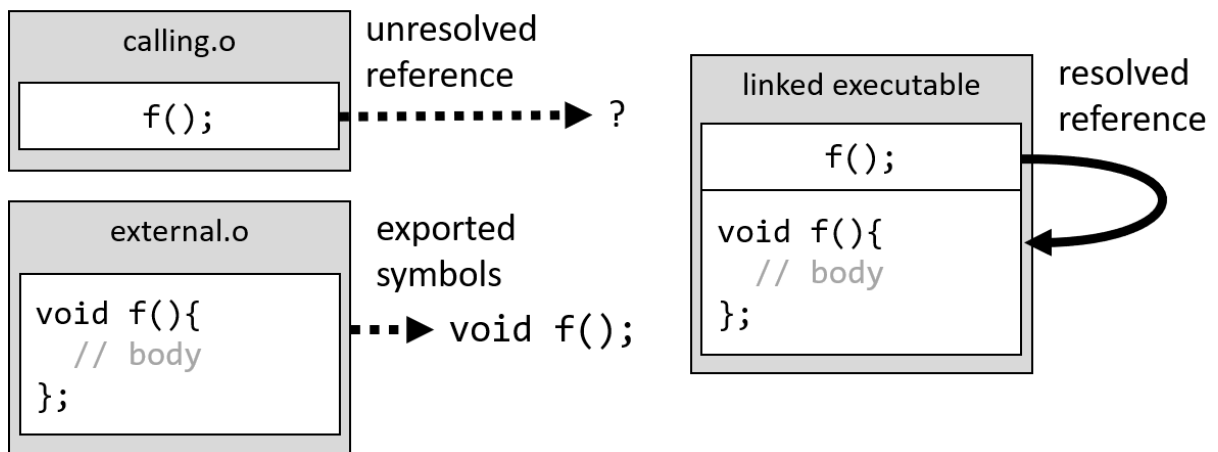


\$<EXPRESSION:arg1,arg2,arg3>

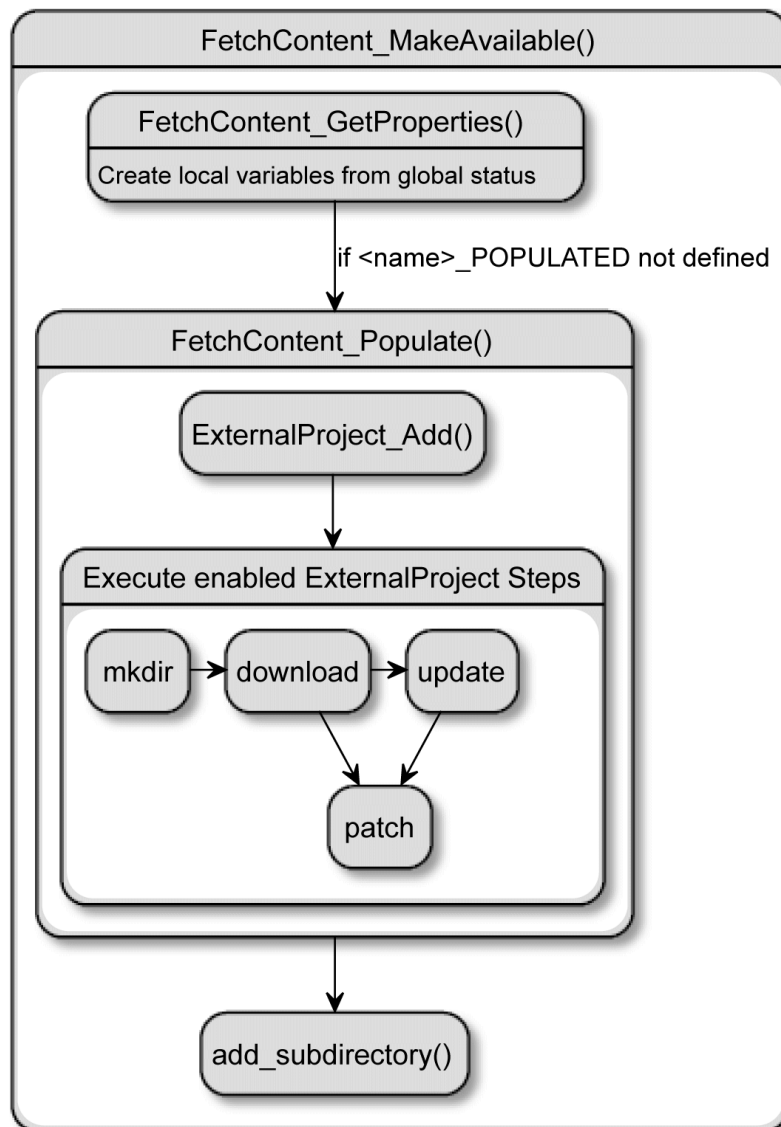
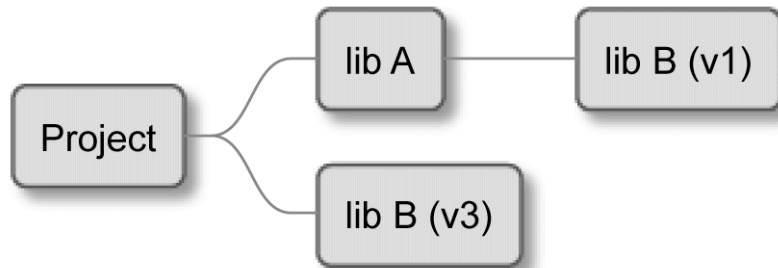
name arguments

Chapter 06: Linking with CMake

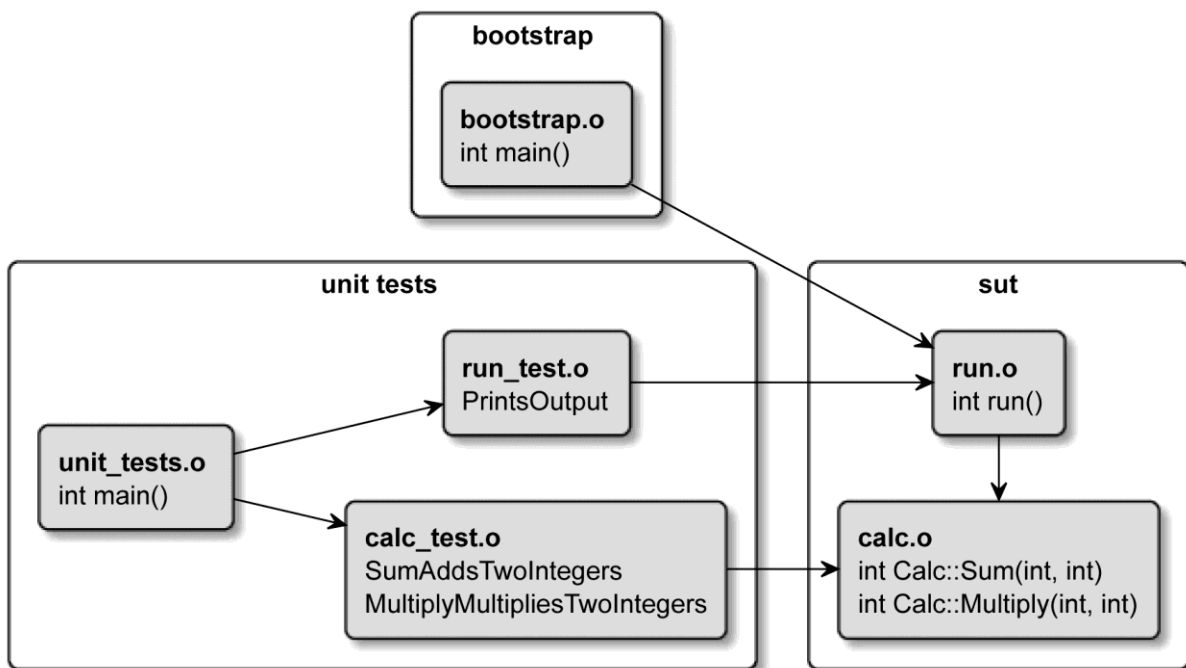
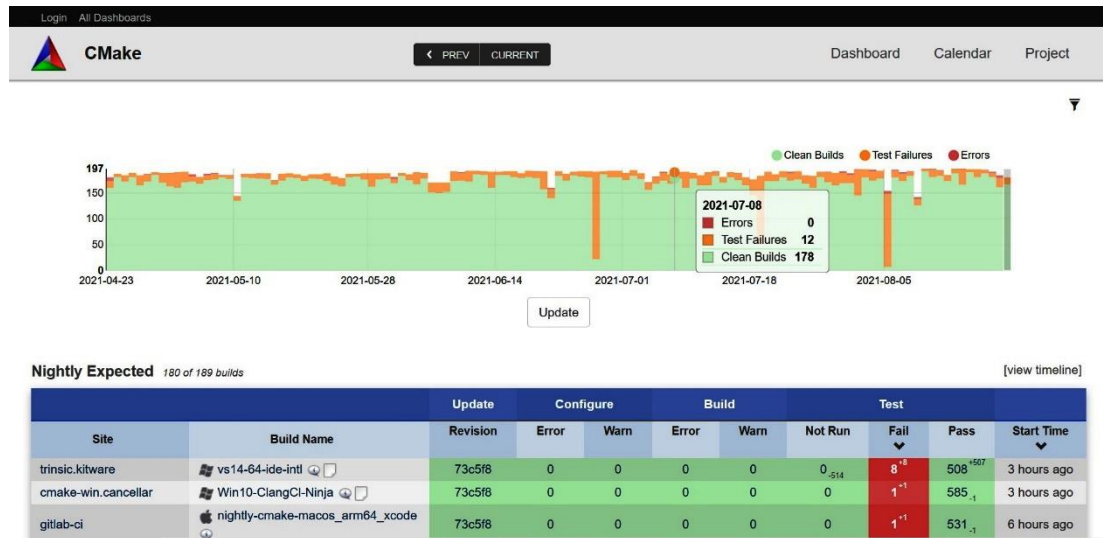




Chapter 07: Managing Dependencies with CMake



Chapter 08: Testing Frameworks



LCOV - code coverage report

Current view: [top level](#) - src

Test: [coverage.info](#)

Date: 2021-08-30 16:33:33

Legend: Rating: low: < 75 % medium: >= 75 % high: >= 90 %

	Hit	Total	Coverage
Lines:	20	21	95.2 %
Functions:	6	8	75.0 %

Filename	Line Coverage (show details)	Functions
calc.cpp	<div><div></div></div> 100.0 % 9 / 9	100.0 % 4 / 4
rng.h	<div><div></div></div> 0.0 % 0 / 1	0.0 % 0 / 2
rng_mt19937.cpp	<div><div></div></div> 100.0 % 5 / 5	100.0 % 1 / 1
run.cpp	<div><div></div></div> 100.0 % 6 / 6	100.0 % 1 / 1

Generated by: [LCOV version 1.14](#)

LCOV - code coverage report

Current view: [top level](#) - [src](#) - [calc.cpp](#) (source / [functions](#))

Test: [coverage.info](#)

Date: 2021-08-30 16:33:33

Legend: Lines: hit not hit

	Hit	Total	Coverage
Lines:	9	9	100.0 %
Functions:	4	4	100.0 %

Line data	Source code
1	: #include "calc.h"
2	:
3	4 : Calc::Calc(RandomNumberGenerator* rng) {
4	4 : rng_ = rng;
5	4 : }
6	:
7	1 : int Calc::Sum(int a, int b) {
8	1 : return a + b;
9	: }
10	:
11	1 : int Calc::Multiply(int a, int b) {
12	1 : return a * b;
13	: }
14	:
15	2 : int Calc::AddRandomNumber(int a) {
16	2 : return a + rng_->Get();
17	: }

Generated by: [LCOV version 1.14](#)

Chapter 09: Program Analysis Tools

Valgrind's memcheck report

Result summary:

Pass: 0 / 1

Errors: 2

⊕ ⊞ Title: Command Analysis name Theme: Light Dark-grey Dark-blue

[-] **ERROR**] Command: unit_tests

```
==1508== Memcheck, a memory error detector
==1508== Copyright (C) 2002-2017, and GNU GPL'd, by Julian Seward et al.
==1508== Using Valgrind-3.15.0 and LibVEX; rerun with -h for copyright info
==1508== Command: /tmp/b/test/unit_tests
==1508== Parent PID: 1492
==1508==
==1508== HEAP SUMMARY:
==1508==    in use at exit: 1 bytes in 1 blocks
==1508==    total heap usage: 209 allocs, 208 frees, 115,555 bytes allocated
==1508==
==1508== 1 bytes in 1 blocks are definitely lost in loss record 1 of 1
==1508==    at 0x483BE63: operator new(unsigned long) (in /usr/lib/x86_64-linux-gnu/valgrind/vgpreload_memcheck-amd64-linux.so)
==1508==    by 0x114FC5: run() (run.cpp:6)
==1508==    by 0x1142B9: RunTest_RunOutputsCorrectEquations_Test::TestBody() (run_test.cpp:14)
==1508==    by 0x151883: void testing::internal::HandleSehExceptionsInMethodIfSupported<testing::Test, void>(testing::Test*, void (testing::Test::*)(), char const*) (gtest.cc:2607)
==1508==    by 0x1496C2: void testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void>(testing::Test*, void (testing::Test::*)(), char const*) (gtest.cc:2643)
==1508==    by 0x11E0DF: testing::Test::Run() (gtest.cc:2682)
==1508==    by 0x11EB21: testing::TestInfo::Run() (gtest.cc:2861)
==1508==    by 0x11F41E: testing::TestSuite::Run() (gtest.cc:3015)
==1508==    by 0x12EDB0: testing::internal::UnitTestImpl::RunAllTests() (gtest.cc:5855)
==1508==    by 0x152DB1: bool testing::internal::HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, bool>(testing::internal::UnitTestImpl*, bool (testing::internal::UnitTestImpl::*)(), char const*) (gtest.cc:2607)
==1508==    by 0x14A900: bool testing::internal::HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, bool>(testing::internal::UnitTestImpl*, bool (testing::internal::UnitTestImpl::*)(), char const*) (gtest.cc:2643)
==1508==    by 0x12D515: testing::UnitTest::Run() (gtest.cc:5438)
==1508==    by 0x115192: RUN_ALL_TESTS() (gtest.h:2490)
==1508==    by 0x115114: main (gtest_main.cc:52)
==1508==
==1508== LEAK SUMMARY:
==1508==    definitely lost: 1 bytes in 1 blocks
==1508==    indirectly lost: 0 bytes in 0 blocks
==1508==    possibly lost: 0 bytes in 0 blocks
==1508==    still reachable: 0 bytes in 0 blocks
==1508==    suppressed: 0 bytes in 0 blocks
==1508==
==1508== For lists of detected and suppressed errors, rerun with: -s
==1508== ERROR SUMMARY: 1 errors from 1 contexts (suppressed: 0 from 0)
```

This report was generated using [memcheck-cover](#) v1.2

Chapter 10: Generating Documentation

Doxygen

[Main Page](#) [Classes ▾](#) [Files ▾](#)

Public Member Functions | List of all members

Calc Class Reference

```
#include <calc.h>
```

Public Member Functions

Calc (RandomNumberGenerator *rng)
int Sum (int a, int b)
int Multiply (int a, int b)
int AddRandomNumber (int a)

Detailed Description

This class does some simple calculations

Member Function Documentation

◆ AddRandomNumber()

```
int Calc::AddRandomNumber ( int a )
```

Adds randomly generated number to the parameter

◆ Multiply()

```
int Calc::Multiply ( int a,  
                    int b  
                    )
```

Multiply... Who would have thought?

Parameters

- a** the first factor
- b** the second factor

Returns

The product

Doxygen

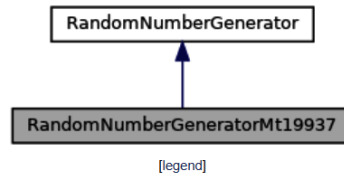
Main PageClassesFiles

Search

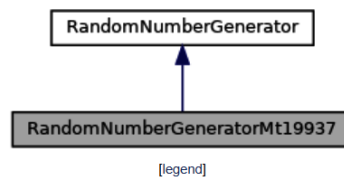
Public Member Functions | List of all members

RandomNumberGeneratorMt19937 Class Reference

Inheritance diagram for RandomNumberGeneratorMt19937:



Collaboration diagram for RandomNumberGeneratorMt19937:



Public Member Functions

int **Get** () override

The documentation for this class was generated from the following files:

- [src/rng_mt19937.h](#)
- [src/rng_mt19937.cpp](#)

Generated by **doxygen** 1.8.17

DoxygenNiceMain PageClassesFilesSearch

DoxygenNiceClassesFilesFile Listsrccalc.hrng.hrng_mt19937.h

Public Member Functions | List of all members

Calc Class Reference

#include <calc.h>

Public Member Functions

Calc (RandomNumberGenerator *rng)

int Sum (int a, int b)

int Multiply (int a, int b)

int AddRandomNumber (int a)

Detailed Description

This class does some simple calculations

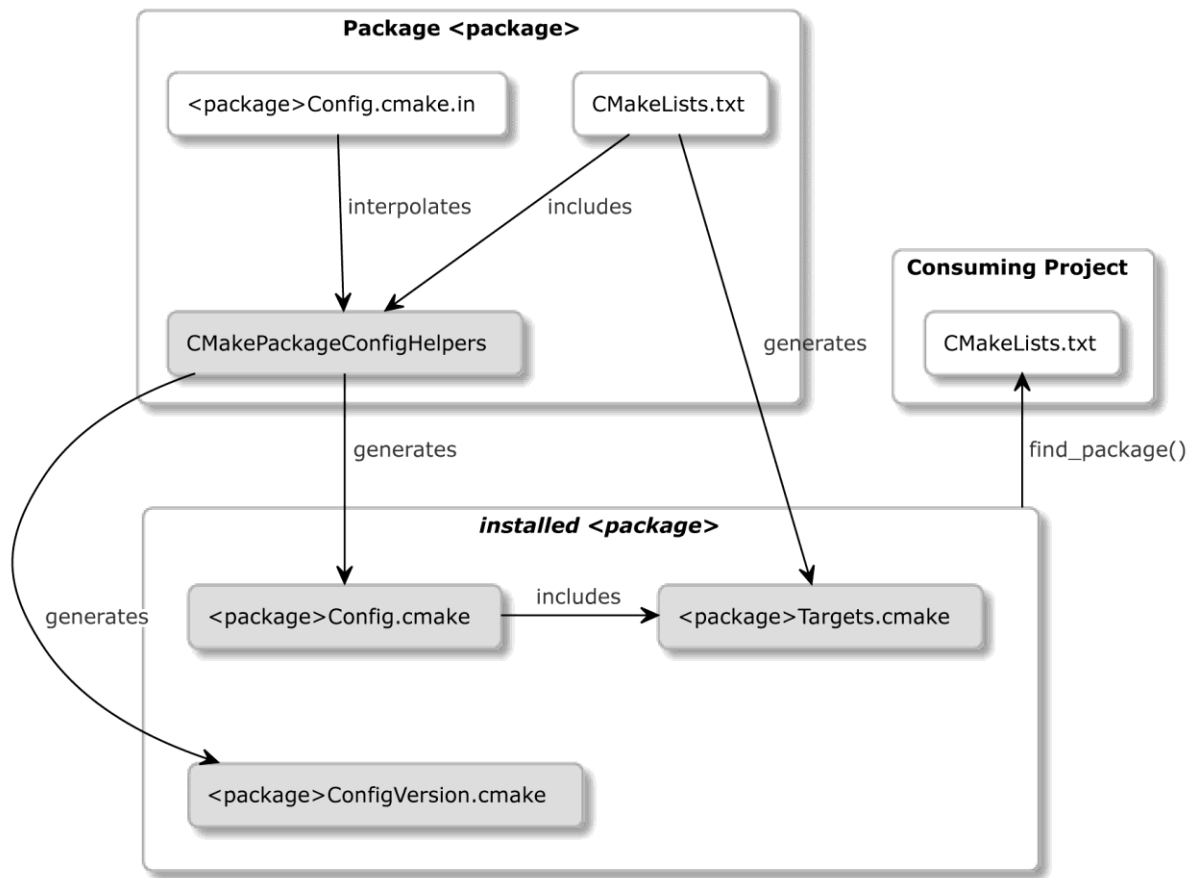
Member Function Documentation

◆ AddRandomNumber()

int Calc::AddRandomNumber (int a)

Adds randomly generated number to the parameter

Chapter 11: Installing and Packaging



Chapter 12: Creating your Professional Project

```
CalcConsole 1.0.0
Built: 2021-12-19T17:59:33
SHA: '21eaf48'

12_
90

Sum: 102
```

```
CalcConsole 1.0.0
Built: 2021-12-19T17:59:33
SHA: '21eaf48'

12
90123_

Sum: 90135
```

