Object Oriented Programming Lab

Installation Manual of Gtest

Content

The focus of this tutorial is to become familiar with the Gtest. It is useful in evaluation of test cases. We will learn to install the gtest and basic usage of gtest for our lab tasks and assignments evaluation.

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Installation and usage of gtest

1. First of all, download a file named as Tutorial.zip from the resources section of your slate account under Lab Section.
2. Unzip and open the folder.
3. Open the terminal of your system and change directory to current folder.
4. run the following command
   bash install-libraries.sh
5. tests.cpp contains the test cases which are to be checked.
   tests.cpp contains the following code.

```
#include "What_to_test.cpp"
#include <gtest/gtest.h>

TEST(SquareRootTest, PositiveNos) {
        ASSERT_EQ(6.0, squareRoot(36.0));
        ASSERT_EQ(18.0, squareRoot(324.0));
        ASSERT_EQ(25.4, squareRoot(645.16));
        ASSERT_EQ(0, squareRoot(0.0));
 }

TEST(SquareRootTest, NegativeNos) {
        ASSERT_EQ(-1.0, squareRoot(-15.0));
        ASSERT_EQ(-1.0, squareRoot(-0.2));
}




int main(int argc, char **argv) {
testing::InitGoogleTest(&argc, argv);
return RUN_ALL_TESTS();
}
```

   The file named as What_to_test.cpp contains the function which we want to check in the test cases.

```
#include <math.h>

double squareRoot(const double a) {
        double b = sqrt(a);
        if(b != b)
          { // nan check
            return -1.0;
        }
        else
          {
            return sqrt(a);
        }
  }
```

6. After successful installation of libraries, you can run the tests.cpp by the following g++ command.
   g++ tests.cpp -lgtest -lpthread -o test

7. This will create the test executable file in the folder. Now you can run the test file by issuing a command ./test
   This will show the summary of the test cases which are passed and which are failed.

Helping Material

You can find the further documentation and usage of the gtest from the following link.
Further Reading Tutorial