

Learning Report – Applied SDLC and Software Testing



GLOBAL
ENGINEERING
ACADEMY

GENSIS



L&T Technology Services



Document History

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NUMBER ANALYZER

INTRODUCTION

This is an application which checks for various properties of a number. When a number is given, the application checks whether the number is Prime, Armstrong, Odd/Even, Palindrome and Power.

REQUIREMENTS

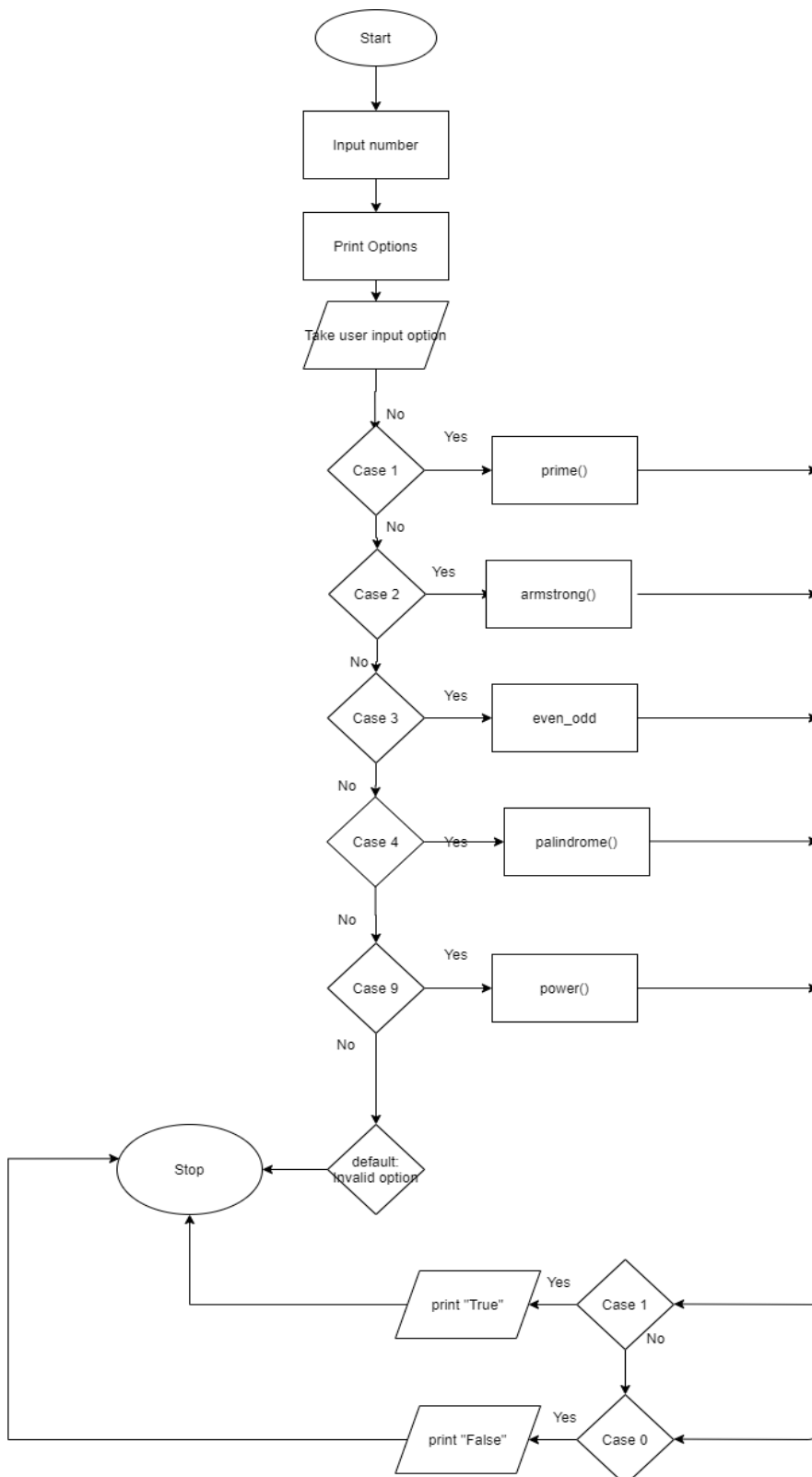
HIGH LEVEL REQUIREMENTS

ID	DESCRIPTION
HL_01	Check for different properties of the number
HL_02	Determine the divisibility
HL_03	Perform different operations

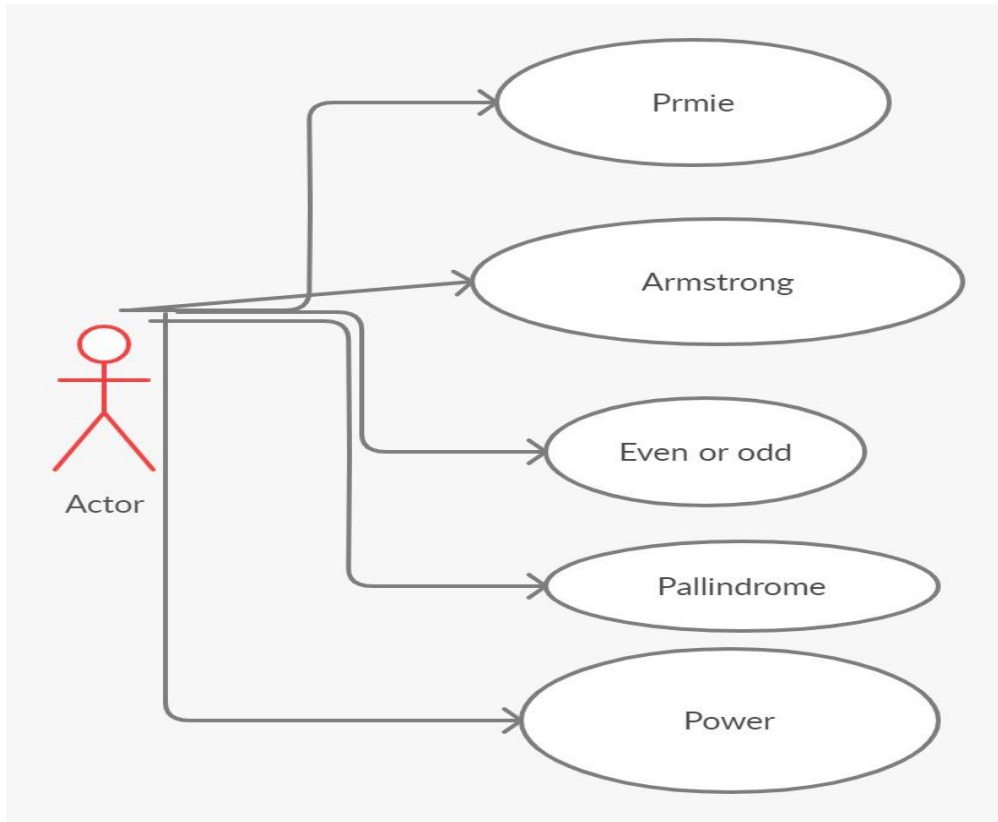
LOW LEVEL REQUIREMENTS

ID	DESCRIPTION
HL_01_LL_01	Determine whether the given number is prime
HL_01_LL_02	Determine whether the given number is Armstrong
HL_01_LL_03	Determine whether the given number is Odd or Even
HL_01_LL_04	Determine whether the given number is a Palindrome
HL_01_LL_05	Determine whether the given number is a power of 2

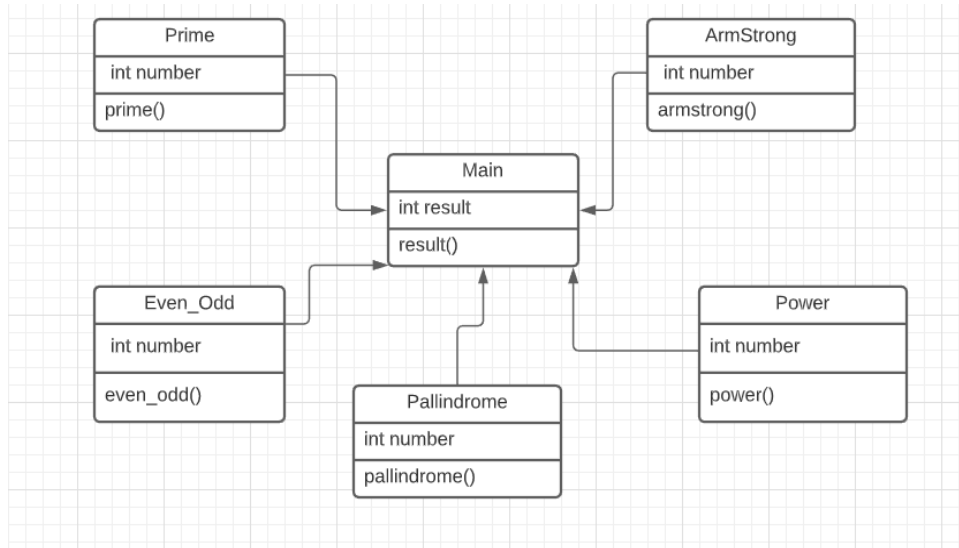
1. UML Diagram



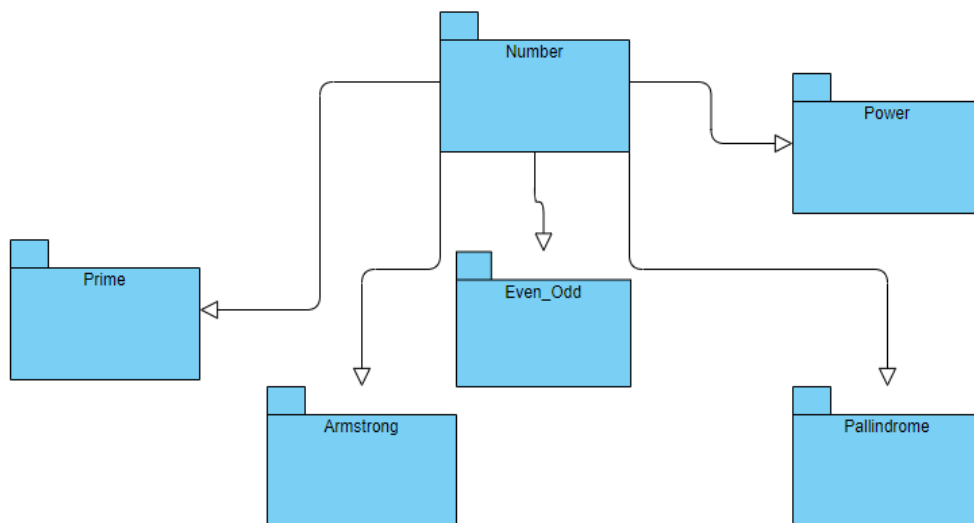
2. Use case Diagram



3. Class Diagram



4. PACKAGE DIAGRAM



TEST PLAN

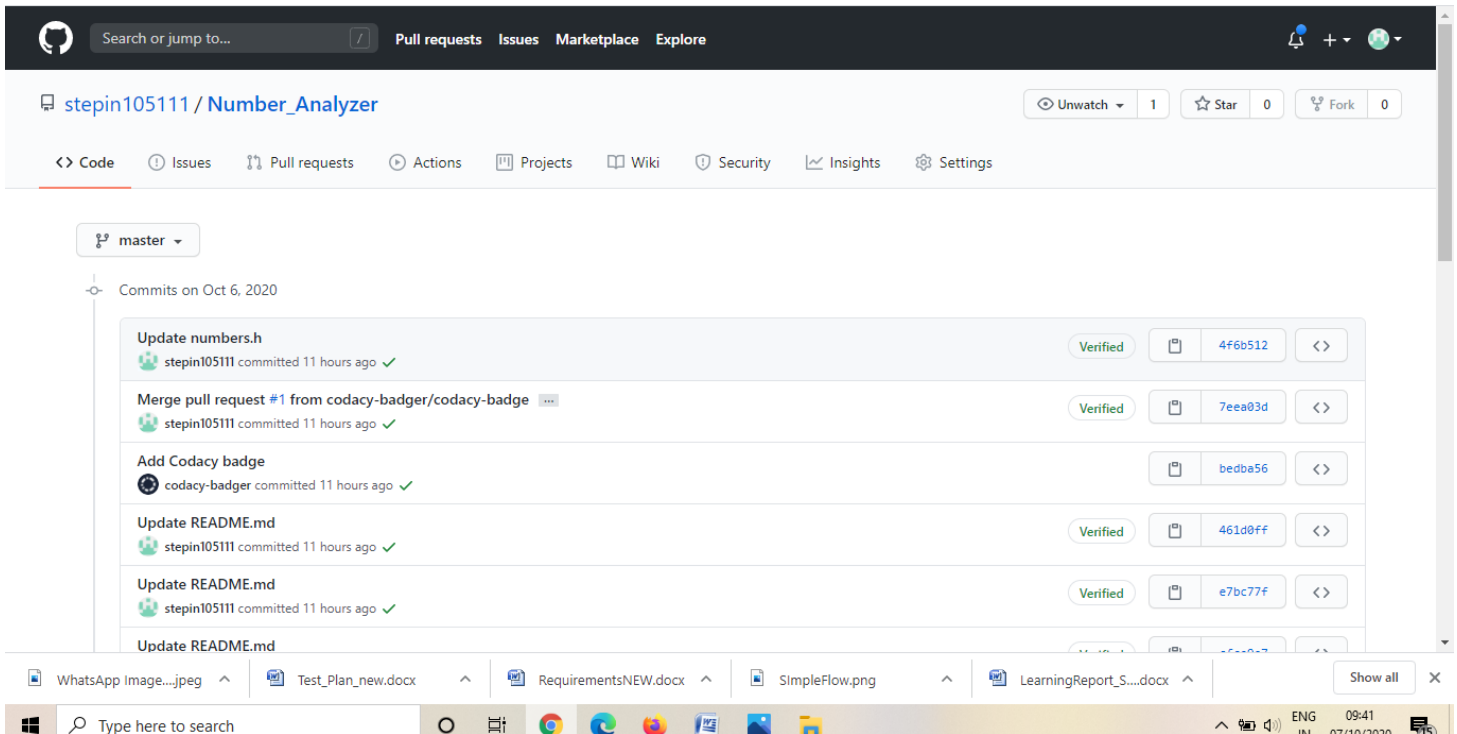
ID	DESCRIPTION	PRE-CONDITION	EXPECTED INPUT	EXPECTED OUTPUT	ACTUAL OUTPUT
HL_01_IT_01	Test Different properties of the given number	The number must be positive	Any Number	PASS/FAIL	
HL_01_LL_01_UT_01	Testing with a prime number	The number must be positive	1	The number is prime	
HL_01_LL_01_UT_02	Testing with a non- prime number	The number must be positive	48	The number is not prime	
HL_01_LL_02_UT_01	Testing with an Armstrong number	The number must be positive	153	The number is Armstrong	
HL_01_LL_02_UT_02	Testing with non-Armstrong number	The number must be positive	15	The number is not Armstrong	
HL_01_LL_03_UT_01	Testing with an even number	The number must be positive	2	The number is Even	
HL_01_LL_03_UT_02	Testing with an odd number	The number must be positive	5	The number is Odd	
HL_01_LL_04_UT_01	Testing with a palindrome number	The number must be positive	1551	The number is Palindrome	

HL_01_LL_04_UT_02	Testing with a number which is not a palindrome	The number must be positive	15	The number is not Palindrome	
HL_01_LL_05_UT_01	Testing with a number which is a power of 2	The number must be positive	4	The number is a power of 2	
HL_01_LL_05_UT_02	Testing with a number which is not a power of 2	The number must be positive	5	The number is not a power of 2	

CI WORKFLOWING

Git Hub Link: https://github.com/stepin105111/Number_Analyzer.git

CODE COMMITS

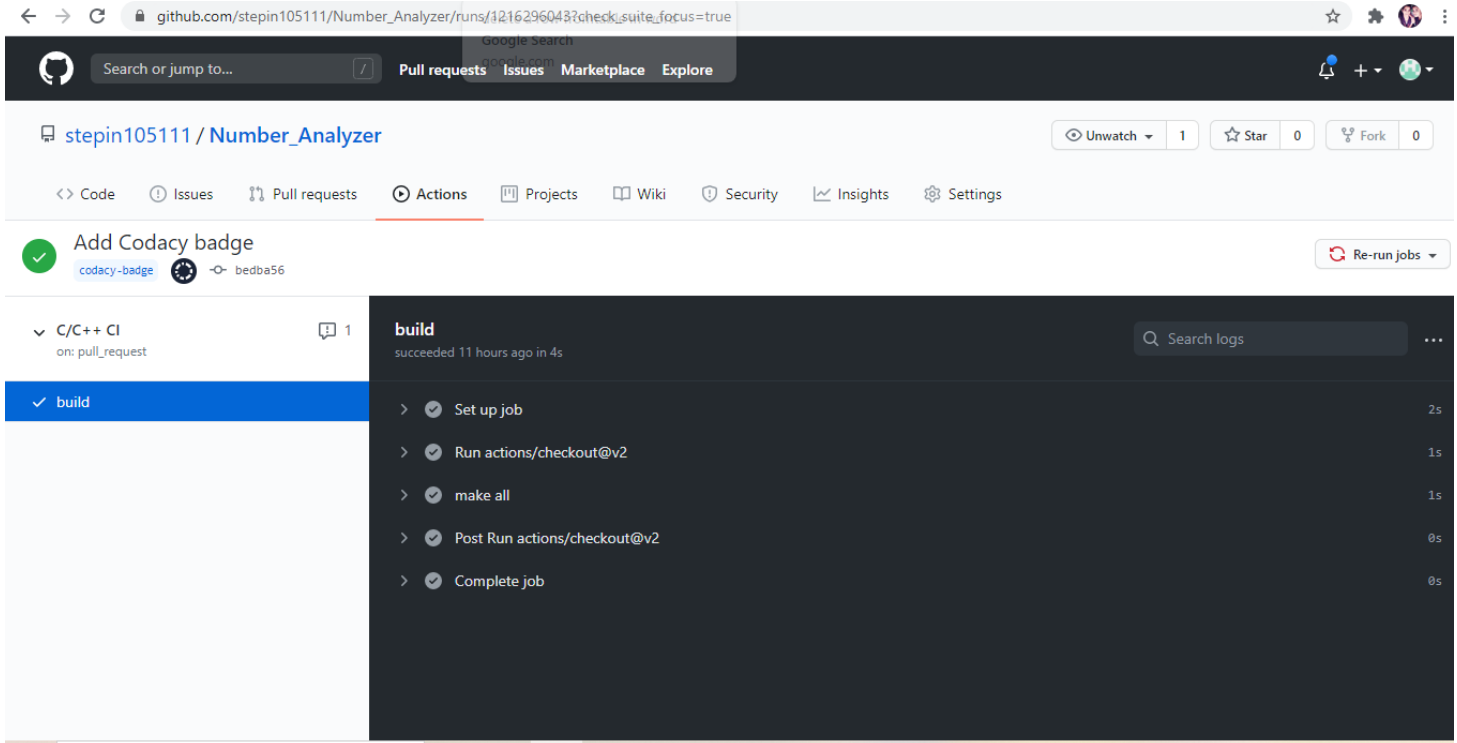


The screenshot displays the GitHub interface for the repository 'stepin105111 / Number_Analyzer'. The repository has 1 star, 0 forks, and 0 issues. The 'Code' tab is selected, showing a list of commits on the 'master' branch for October 6, 2020. The commits are as follows:

Commit Message	Author	Time	Hash	Verified
Update numbers.h	stepin105111	committed 11 hours ago	4f6b512	Yes
Merge pull request #1 from codacy-badger/codacy-badger	stepin105111	committed 11 hours ago	7eea03d	Yes
Add Codacy badge	codacy-badger	committed 11 hours ago	bedba56	Yes
Update README.md	stepin105111	committed 11 hours ago	461d0ff	Yes
Update README.md	stepin105111	committed 11 hours ago	e7bc77f	Yes
Update README.md	stepin105111	committed 11 hours ago	e7bc77f	Yes

The Windows taskbar at the bottom shows several open applications: WhatsApp Image..., Test_Plan_new.docx, RequirementsNEW.docx, SimpleFlow.png, and LearningReport_S....docx. The system clock indicates the time is 09:41 on 07/10/2020.

BUILD



The screenshot shows the GitHub Actions interface for the repository 'stepin105111 / Number_Analyzer'. The 'Actions' tab is selected, displaying a workflow named 'build' that succeeded 11 hours ago in 4s. The workflow steps are: Set up job (2s), Run actions/checkout@v2 (1s), make all (1s), Post Run actions/checkout@v2 (0s), and Complete job (0s). A 'C/C++ CI' workflow is also visible on the left, triggered on pull requests.

stepin105111 / Number_Analyzer

Unwatch 1 Star 0 Fork 0

Code Issues Pull requests **Actions** Projects Wiki Security Insights Settings

Add Codacy badge
codacy-badge bedba56 Re-run jobs

Unit testing
on: pull_request

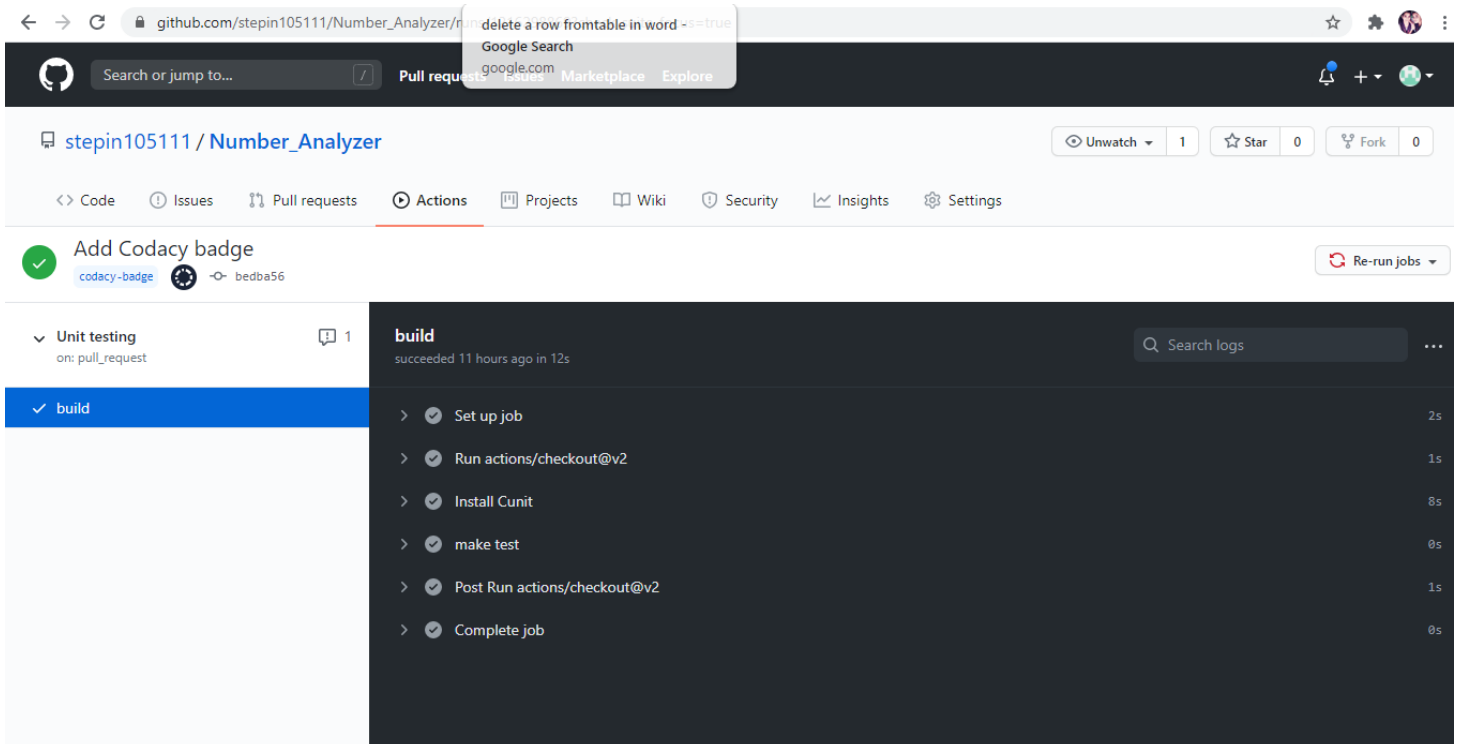
✓ build

build
succeeded 11 hours ago in 4s

Search logs

- Set up job 2s
- Run actions/checkout@v2 1s
- make all 1s
- Post Run actions/checkout@v2 0s
- Complete job 0s

UNIT TESTING



The screenshot shows the GitHub Actions interface for the repository 'stepin105111 / Number_Analyzer'. The 'Actions' tab is selected, displaying a workflow named 'build' that succeeded 11 hours ago in 12s. The workflow steps are: Set up job (2s), Run actions/checkout@v2 (1s), Install Cunit (8s), make test (0s), Post Run actions/checkout@v2 (1s), and Complete job (0s). A 'Unit testing' workflow is also visible on the left, triggered on pull requests.

stepin105111 / Number_Analyzer

Unwatch 1 Star 0 Fork 0

Code Issues Pull requests **Actions** Projects Wiki Security Insights Settings

Add Codacy badge
codacy-badge bedba56 Re-run jobs

Unit testing
on: pull_request

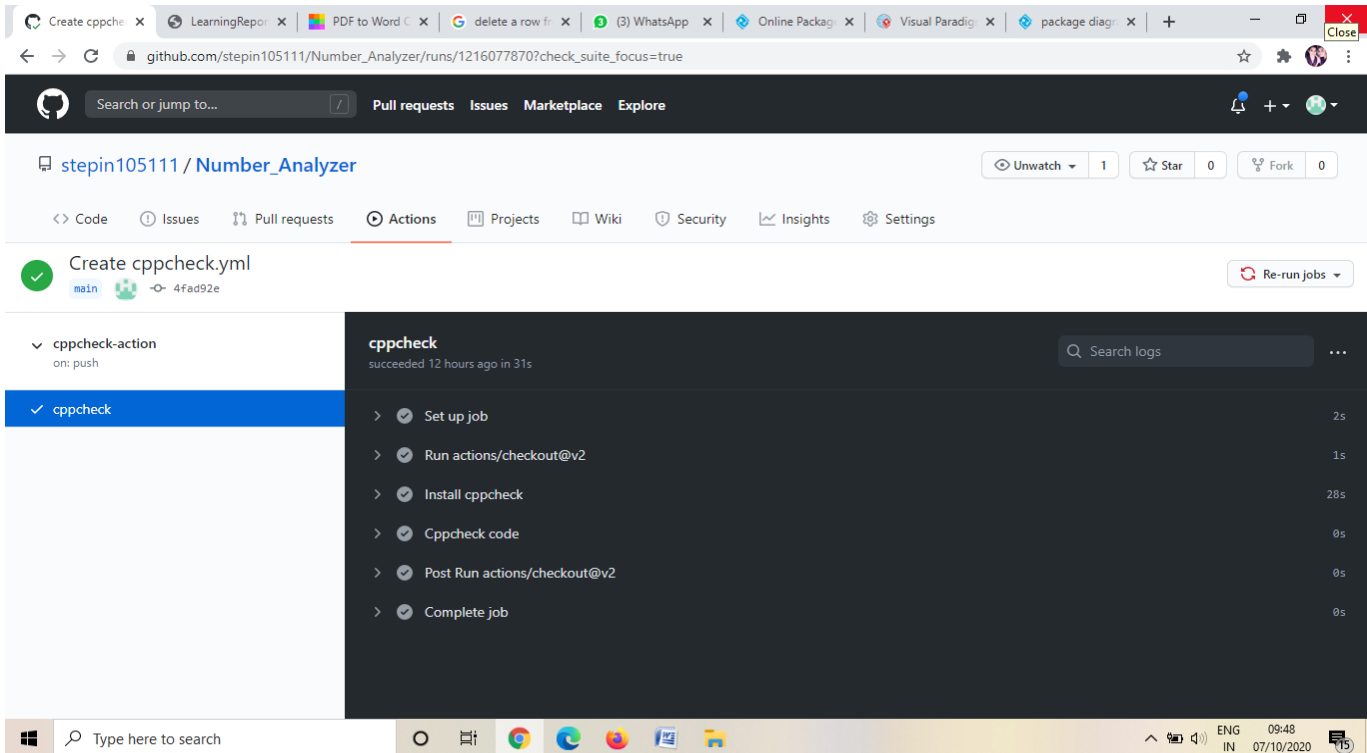
✓ build

build
succeeded 11 hours ago in 12s

Search logs

- Set up job 2s
- Run actions/checkout@v2 1s
- Install Cunit 8s
- make test 0s
- Post Run actions/checkout@v2 1s
- Complete job 0s

CPPCHECK

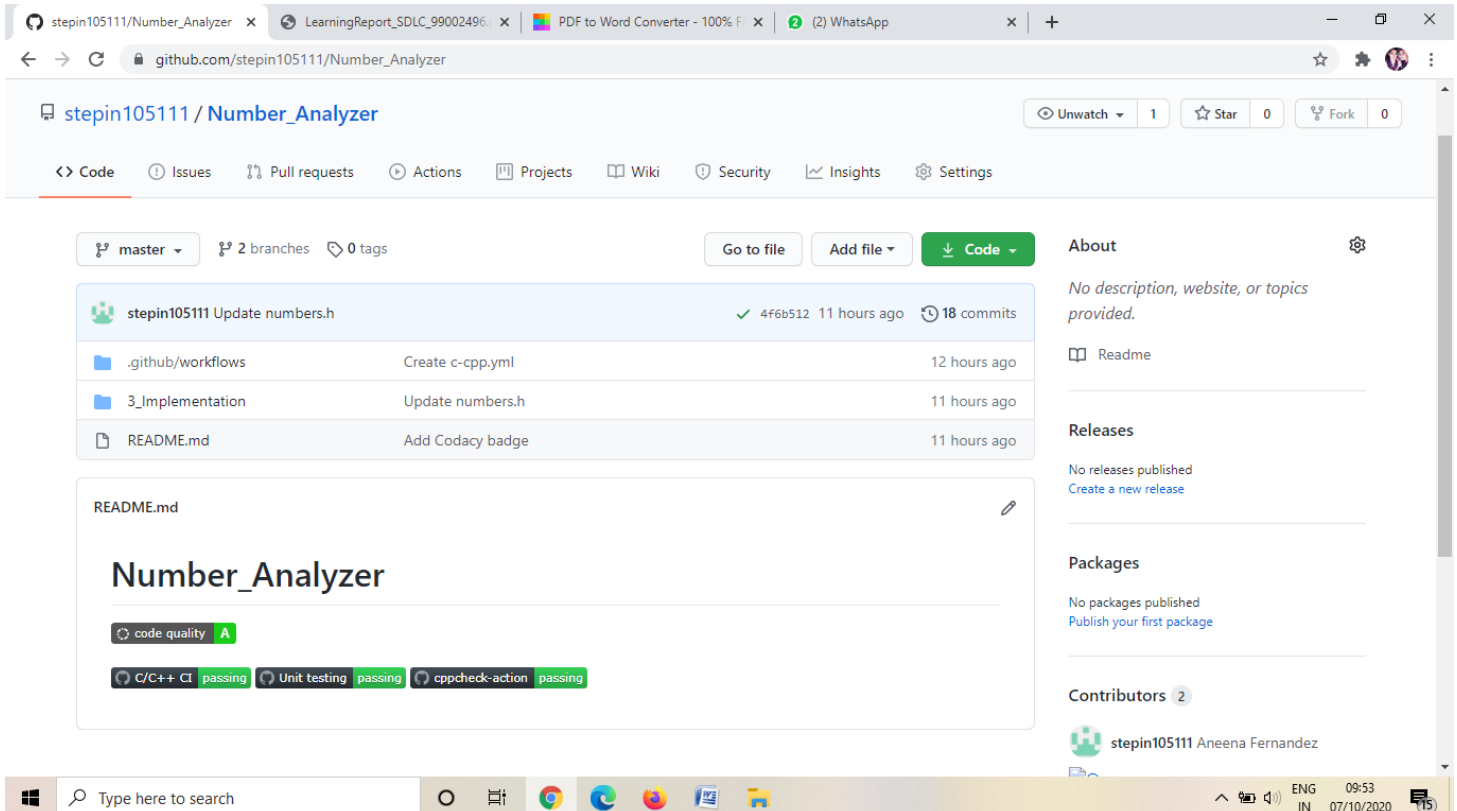


The screenshot shows the GitHub Actions workflow for the repository `stepin105111/Number_Analyzer`. The workflow is named `Create cppcheck.yml` and was triggered by a push to the `main` branch. The workflow is currently in a `queued` state. The workflow steps are:

- `Set up job` (2s)
- `Run actions/checkout@v2` (1s)
- `Install cppcheck` (28s)
- `Cppcheck code` (0s)
- `Post Run actions/checkout@v2` (0s)
- `Complete job` (0s)

The workflow is currently in a `queued` state. The workflow is currently in a `queued` state.

BADGES



The screenshot shows the GitHub repository page for `stepin105111/Number_Analyzer`. The repository is currently in a `queued` state. The repository has 2 branches and 0 tags. The repository is currently in a `queued` state.

The repository contains the following files:

- `.github/workflows` (Create c-cpp.yml)
- `3_Implementation` (Update numbers.h)
- `README.md` (Add Codacy badge)

The repository is currently in a `queued` state. The repository is currently in a `queued` state.

The repository is currently in a `queued` state. The repository is currently in a `queued` state.

CODACY

