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LTTS  MYSURU

Requirements Document

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# Glossary

* Armstrong Number -A positive integer is called an Armstrong number (of order n) if

abcd... = a^n + b^n + c^n + d^n +... (Programiz - armstrong number, n.d.)

* Fibonacci Number – Part of the Fibonacci Sequence. A number is Fibonacci if and only if one or both of (5\*(n^2) + 4) or (5\*(n^2) – 4) is a perfect square. (Fibonnaci, n.d.)
* Neon Number - A neon number is a number where the sum of digits of square of the number is equal to the number.(Neon number, n.d.)
* Palindrome - An integer is a palindrome if the reverse of that number is equal to the original number. (Palindrome, n.d.)

# Introduction

The goal is to develop a simple C application to check if a number is a special kind of number or perform basic operations between two numbers.

# Requirements

## High Level

|  |  |
| --- | --- |
| ID | Description |
| H01 | The application shall determine whether a number, taken as an input from the user, is a special number from a given list of identifiers. |
| H02 | The application shall perform a given set of operations on two numbers given as an input from the user. |

## Low Level

|  |  |
| --- | --- |
| ID | Description |
| H01\_L01 | The application shall have a function to determine if a number is an Armstrong number. |
| H01\_L02 | The application shall have a function to determine if a number is part of the Fibonacci sequence. |
| H01\_L03 | The application shall have a function to determine if a number is a Neon number. |
| H01\_L04 | The application shall have a function to determine if a number is a palindrome. |
| H01\_L05 | The application shall have a function to determine if a number is a perfect square. |
| H01\_L06 | The application shall have a function to determine if a number is a prime number. |
| H02\_L01 | The application shall have a function to add two numbers. |
| H02\_L02 | The application shall have a function to subtract two numbers. |
| H02\_L03 | The application shall have a function to divide two numbers. |
| H02\_L04 | The application shall have a function to multiply two numbers. |
| H02\_L05 | The application shall have a function to find the power of number to another. |

# Conclusion

The application shall be uploaded to GIThub and tested using cunit test framework.

# References

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*Programiz - armstrong number*. (n.d.). Retrieved from https://www.programiz.com/c-programming/examples/check-armstrong-number