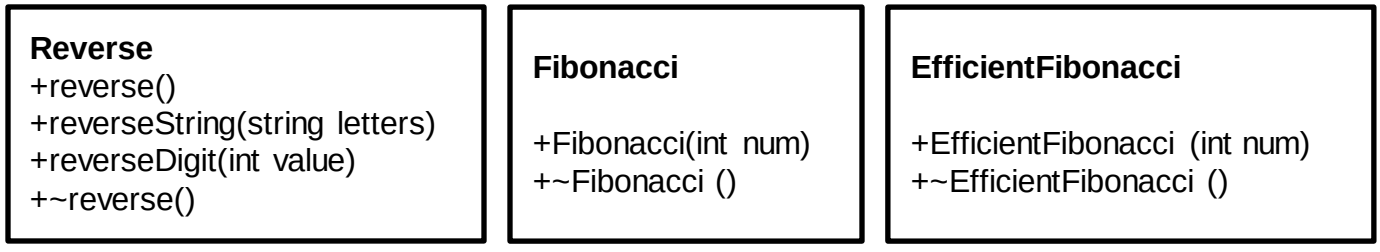
ADDS Practical 4 Design

Hideki Yoshinaga | a1658945

28/08/2017

UML Diagram



Description

Reverse

This class has 2 functions can be used, reverseDigit takes a number and return reversed number of the input.

+Reverse() :this is the Reverse constructor

+reverseString(string letters): Takes a string check its length, if it is 1 then return the string, if not pass a substring from 1~length back to reverseString and add the first letter to the back then return it.

+reverseDigit(int value): Takes a int transform into string and pass it to reverseString() then, tranform back to int and return it.

+~Reverse() : this is the computer destructor.

Fibonacci

reads in a number n and outputs the n-th Fibonacci number Fn.

+ Fibonacci(int num) :this is the Fibonacci constructor, sums up all Fibnacci numbers that has been calculated in EfficientFibonacci.

+~ Fibonacci() : this is the Fibonacci destructor.

EfficientFibonacci

reads in a number n and outputs the n-th Fibonacci number Fn without

+ EfficientFibonacci(int num) :this is the EfficientFibonacci constructor, reads in a number n and outputs the n-th Fibonacci number Fn.

+~ EfficientFibonacci() : this is the EfficientFibonacci destructor.

main

The main function will ask user to input 4 values: num1, str, num2, num3
Num1 2 3 will be checked if they are positive numbers, ifnot will print “ERROR”.
After checking,Reverse, Fibonacci and EfficientFibonacci classes will be created, num1, str, num2, num3 will be passed to them and return the results.

Testing

input 1: 123456 abcd 6 6
output 1: 654321 dcba 8 8

input 2: -11234 abba 20 3
output 2: ERROR abba 6765 2

input 3: 00119 Adelaide sa 11
output 3: 911 edialedA ERROR 89