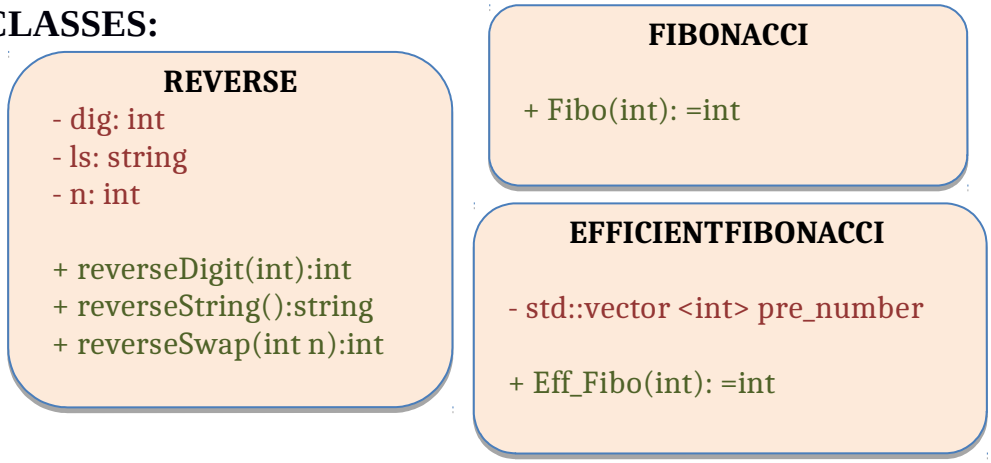
ADDS - Practical 4: Recursion.

Diana Guevara
ID 1711891

1. DIAGRAM OF CENTRAL CLASSES:



2. EXPLANATION OF CORE FUNCTION:

REVERSEDIGIT: This function will take as a parameter an integer, it will store it the stringstream newstring, and then in "ls". Then it will find the length and will store it in a temporal variable "n" and it will call of ReverseSwap. Finnally it will return ls reverse to the stringstream newint. Finnally it will return value.

REVERSESTRING: This function will take as a parameter an string, it will store it in "ls". Then it will find the length and will store it in a temporal variable "n" and it will call of ReverseSwap. Finnally it will return ls reverse.

REVERSESWAP: This function take an integer "n" and swap the position "n" of the string "ls" (string variable of the object Reverse) with the position (length – n) of the same string and return the n. while "n" if bigger than the middle of the length of the string, this function will called itself.

FIBO(INT): This function will take as a parameter an integer called number. The function will define the bases case to return that are 0, in which case return, and 1 when will return 1. For ever other output, the function should call itself, of the number-1 + number -2.

EFFICIENTFIBO(INT): This function will take as a parameter an integer called number. The function will define the bases case to return that are 0, in which case return, and 1 when will return 1. If the integer is less than the size of the vector that store the precious outpus, it will return the position "n" of this vector. For ever other output, the function should call itself, of the number-1 + number -2. Finnally, it will store the values calculated before in the vector and return the integer..

3. TESTING: Following is a description of the test cases that will be used to test my program.

Given input	Rationale	I expect output
12345 apple 6 6	Test the example input giving in the practical.	**54321 elppa 8 8**
-1 appa 20 3	Test the second example input giving in the practical. Looking for the check of only non-negative numbers as an input for reverse integers function.	**ERROR appa 6765 2**
11900 Adelaide sa 11	Test the 3 example input giving in the practical. Checking that the output for the integer reverse function is a integer.	**911 edialedA ERROR 89**
25h5 ERROR -2 -2	Test that the program is only taking numbers for the reverse integer, only alphabet character for the string reverse, and it will no take negative numbers in the fibo functions.	**ERROR ERROR ERROR ERROR**
2468 LINA 13 13	Test that the par characters inputs give the correct output. And that the fibo number of bigger number is the same in the 2 fibo functions.	**8642 ANLI 233 233**
753 ala & a	Test that the 3 characters inputs give the correct output, and that the fibo fuctions only take numbers.	**357 ala ERROR ERROR**