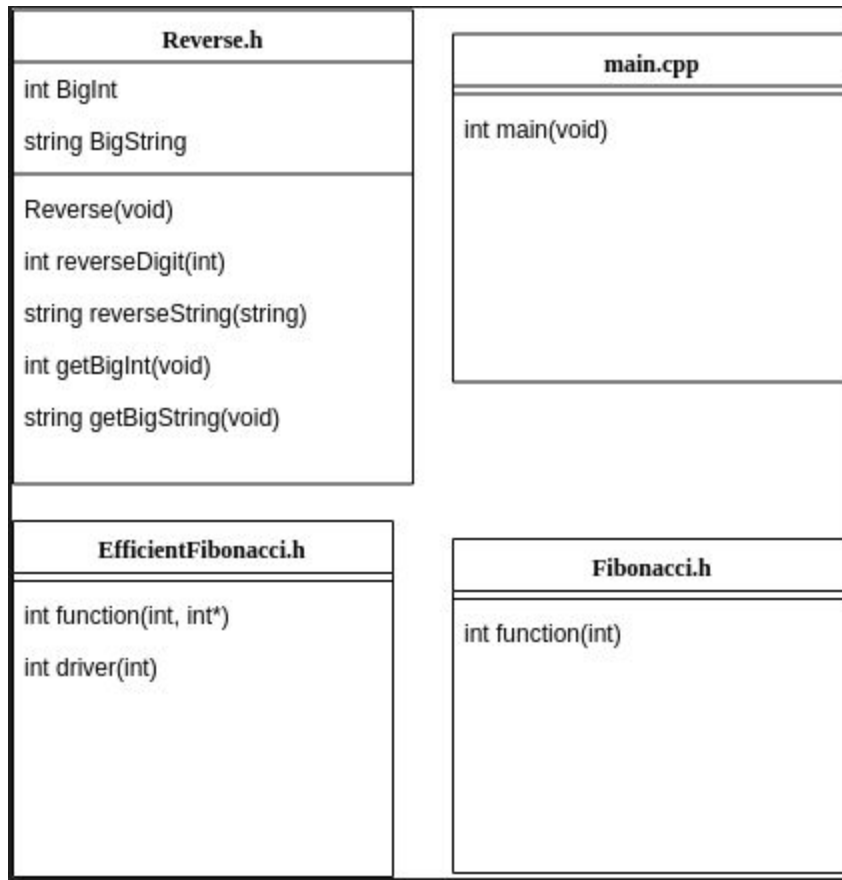


Adds Assignment 4 Design
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UML:



Function breakdown:

Main

- Takes an input broken apart with three spaces.
- The four inputs are split into separate variables.
- The first input is tested to see if it is in fact an integer. If so, then the number is put through the reverse function. If not, then its corresponding output is error.
- The second input is put through the string reverse function.
- The third input is put through the fibonacci function after error testing to see if its an int.
- The fourth input is put through the efficient fibonacci function after error testing to see if its an int.
- One string at the end with all the outputs in order of the way they were input.

Reverse

- Two functions that do similar things. One for ints and one for strings.
- Checks for extreme cases which results in error.

- Uses a predefined integer/string in the constructor named big int / big string that is dragged along through the base cases / recursion cases in which the the string / integer is reversed.
- Getters for the big int/string are also included in this object.

Fibonacci

- Error checks.
- Checks base cases of 0 and 1.
- Recursively adds $f(n) = f(n-1) + f(n-2)$.

Efficient Fibonacci

- A driver function exists to create an array that stores the values of already calculated fibonacci numbers.
- The array and user input are pushed into a recursion loop very similar to the previous function.
- Along with error checker and base cases, the function also checks if the calculation has already been done using the array.
- Recursively adds $f(n) = f(n-1) + f(n-2)$.

Testing:

Input: {nothing}

Output: {seg fault}

Input: 12 12 12 12

Output: 21 21 144 144

Input: Jim jim jim jim

Output: ERROR mij ERROR ERROR

Input: 0 0 0 0

Output: 0 0 0 0

Input: What a nice ward

Output: ERROR a ERROR ERROR

Input: 69 69 69 69

Output: {terminal had a stroke}

Input: 69 69 6 9

Output: 96 96 8 34

Input: Needlessly edgy 4 20

Output: ERROR ygde 3 6765