AD&DS Design

String Reversal

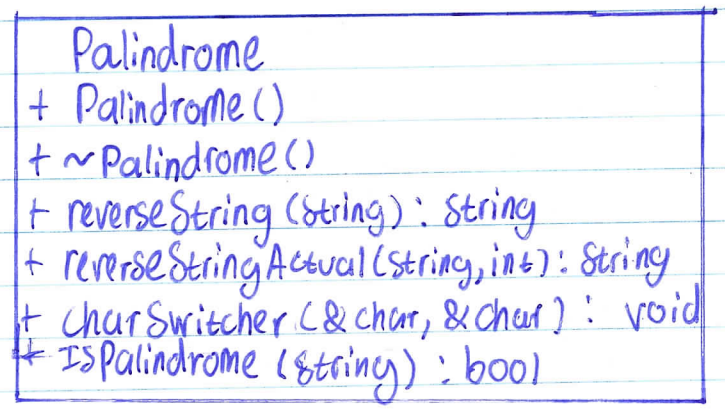
Two cases: Even, odd

Even: John → 2 iterations, length of string/2

Odd: Why → 1 iteration, (length-1)/2

Have to have two different conditionals

UML Diagram



Testing

Test both odd and even length strings
Test no string, empty string
Test small and large strings

For palindrome checker:

Use compare string function

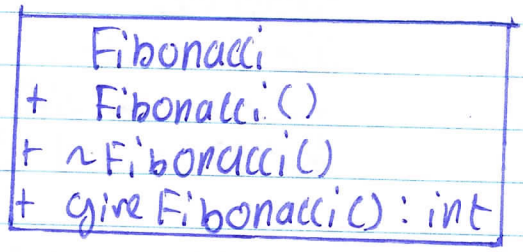
Testing

Test both palindromes and non palindromes.

Fibonacci

If the values are 0 or 1 just return them back. Otherwise add two recursions, one being one less the other being two less. Simple.

UML

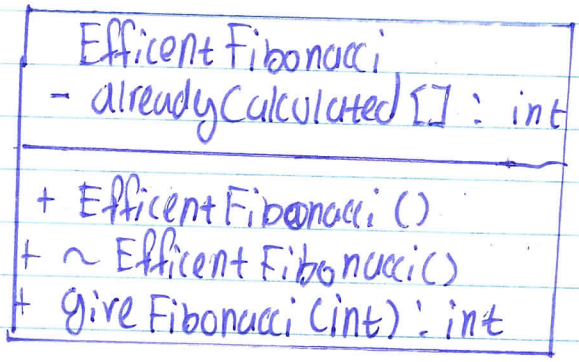


Testing
Test 1 and 0
Test large no. to see the upper limit.
Can't accept decimals, only integers.

Efficent Fibonacci

Store already calculated values in an array, fill with a negative number for comparison purposes.

UML



Testing:

The same testing as normal fibonacci.

Main

Bring it all together.
Testing,
Add exceptions for:
- No input
- Character instead of number for fibonacci
- Float for fibonacci
- Palindromes
- Not palindromes.
- Variety of different values for both Palindrome and fibonacci.

All the above exceptions need to be tested.