

## **SRS Cole Holbrook**

### Functional Requirements:

1. The system shall open a file and store each value as a string inside of a list.
2. The system shall have an attribute labeled “accumulator” which can store one value as a string.
3. The system shall iterate through the list and process each value based on the operator, the first two digits, and the operand, the second two digits (n).
4. The system shall add the accumulator value with the nth value of the list and store it in the accumulator if the system finds an add operator.
5. The system shall subtract the accumulator with the nth value of the list and store the result in the accumulator if the system finds a subtract operator.
6. The system shall truncate the accumulator down to 4 digits if the result of the addition or subtraction is more than 4 digits.
7. The system shall multiply the accumulator with the nth value of the list and store the result in the accumulator if the system finds a multiply operator.
8. The system shall divide the accumulator with the nth value of the list if the system finds a divide operator.
9. The system shall truncate the accumulator down to 4 digits if the result of the multiplication or division is more than 4 digits.
10. The system shall jump to the nth element in the list if the system finds a jump operator.
11. The system shall throw a `IndexError` if the jump operand is bigger than the length of the list.
12. The system shall throw a `IndexError` if the multiply operand is bigger than the length of the list.
13. The system shall throw a `IndexError` if the divide operand is bigger than the length of the list.
14. The system shall stop when the system finds a halt command or reaches the end of the list.
15. The system shall print all elements of the list and the value of the accumulator once the program finds a halt command or reaches the end of the list.

### Non-Function Requirements:

1. The system can be a calculator that takes two inputs and adds the two numbers.
2. The system can be a calculator that takes two inputs and multiplies the two numbers.
3. The system can support up to 100 elements in the list (memory.)