Version 1:

1. Get input from user

    a. Two lines, first is number, second is string

2. Find secret encoded message inside

    a. Write it out to a file

3. Continue until input is 0

Version 2:

1. Main

    a. Takes in all numbers input and string inputs from file until number is 0, send those to *decrypt*() <- *final*

    b. For each case, send *final* to file

2. getContent()

    a. takes in all values from a given file and creates a list consisting of them

3. decrypt(columns, encodedString)

    a. define two separators that are able to step through the string in what equates to be bostrophudonic order. Each pass through adds the appropriate characters, then updates both separators and other temporary variables as needed. Return the final string as *finalString*

Version 3:

```
1. main
    a. open file and get all lines of content <- content
    b. for numbers in range[0,length of content) <- x
        i. content[x] <- tempInt
        ii. content[x+1] <- tempString
        iii. decrypt(tempInt, tempString) <- decodedString
        iv. outToFinal(decodedString)
        v. increment x

2. getContent()
    a. open file
    b. get all lines of file <- content
    c. strip whitespace from lines
    d. return content
3. decrypt(columns, encodedString)
    a. columns*2-1 <- sep1, originalSep1
    b. 1 <- sep2
    c. False <- done
    d. “” <- finalString
    e. 0 <- x
    f. 0 < - currentIndex
    g. length of encodedString <- length
    h. while not done
        i. x=0
        ii. While(x < length)
```

```
            1. X=currentIndex
            2. Add encodedString[x] to fullString
            3. X+=sep1
            4. If x<length
                a. Add encodedString[x] to fullString
            5. X+=sep2
            6. If x<length
                a. Add encodedString[x] to fullString
            7. Sep1-=2
            8. Sep2-=2
        iii. currentIndex++
        iv. if currentIndex==originalSep1
            1. done=true
    i. return finalString
4. outToFinal(decodedString)
    a. print(decodedString)
```

Test Case 1
Validates Software Requirements 1 and 5

Input Data (in a file named sphere400-test.in)
0

Expected Output or Behavior (sent to a file named euler003-test.out)

Actual output (euler003-test.out contents)

Test Case Results: Passed

Test Case 2
Validates Software Requirements 1 and 5-8

Input Data (in a file named sphere400-test.in)
4
ttg3x1iesn2x
0

Expected Output or Behavior (sent to a file named euler003-test.out)
testing123xx

Actual output (euler003-test.out contents)
testing123xx

Test Case Results: Passed

Test Case 3
Validates Software Requirements 1 and 5-8

Input Data (in a file named sphere400-test.in)

```
2
dysoghisax
4
ttg3x1iesn2x
20
teucbonojmsvrhlzdgolxocoyaeteopuxfwrkiqh
0
```

Expected Output or Behavior (sent to a file named euler003-test.out)

```
dogsayshix
testing123xx
thequickbrownfoxjumpsoverthelazydogcoolx
```

Actual output (euler003-test.out contents)

```
dogsayshix
testing123xx
thequickbrownfoxjumpsoverthelazydogcoolx
```

Test Case Results: Passed

Test Case 4
Validates Software Requirements 1 and 5-8

Input Data (in a file named sphere400-test.in)

```
2
dysoghisax
4
ttg3x1iesn2x
20
teucbonojmsvrhlzdgolxocoyaeteopuxfwrkiqh
20
hsaaoteartststnadeaesnfongiahphhlahrtmtimecemmtlueoannedffds1cibitgitjwneetysrvyneetah
dndeitncoaocl23eitmshthtbrgfalcacamatagtoeeshieaophev45enirllrsiidfriosineidnerccootnwelv
otcr67nysueesakenuhrigfis
0
```

Expected Output or Behavior (sent to a file named euler003-test.out)

```
dogsayshix
testing123xx
thequickbrownfoxjumpsoverthelazydogcoolx
himynameisstevecandiamcreatinfatestcasegormyalgorithmthaticreatedforchallengefourhundre
donthewebsitespojithinkthatthiswasaninterestingchallengetosolveandiamproudofbothitsefficie
ncyandcleverness1234567
```

Actual output (euler003-test.out contents)

```
dogsayshix
testing123xx
thequickbrownfoxjumpsoverthelazydogcoolx
himynameisstevecandiamcreatinfatestcasegormyalgorithmthaticreatedforchallengefourhundre
donthewebsitespojithinkthatthiswasaninterestingchallengetosolveandiamproudofbothitsefficie
ncyandcleverness1234567
```

Test Case Results: Passed