Version 1:

1. Get input from user
   1. Two lines, first is number, second is string
2. Find secret encoded message inside
   1. Write it out to a file
3. Continue until input is 0

Version 2:

1. Main
   1. Takes in all numbers input and string inputs from file until number is 0, send those to *decrypt*() <- *final*
   2. For each case, send *final* to file
2. getContent()
   1. takes in all values from a given file and creates a list consisting of them
3. decrypt(columns, encodedString)
   1. 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
   1. open file and get all lines of content <- *content*
   2. for numbers in range[0,length of content) <- *x*
      1. *content*[*x*] <- *tempInt*
      2. *content*[*x*+1] <- *tempString*
      3. *decrypt*(*tempInt*, *tempString*) <- *decodedString*
      4. *outToFinal*(*decodedString*)
      5. increment *x*
2. getContent()
   1. open file
   2. get all lines of file <- *content*
   3. strip whitespace from lines
   4. return *content*
3. *decrypt*(*columns*, *encodedString*)
   1. *columns*\*2-1 <- *sep1*, *originalSep1*
   2. 1 <- *sep2*
   3. False <- *done*
   4. “” <- *finalString*
   5. 0 <- x
   6. 0 < - *currentIndex*
   7. length of *encodedString* <- *length*
   8. while not *done*
      1. *x*=0
      2. While(*x* < *length*)
         1. *X*=*currentIndex*
         2. Add *encodedString*[*x*] to *fullString*
         3. *X*+=*sep1*
         4. If *x*<*length*
            1. Add *encodedString*[*x*] to *fullString*
         5. *X*+=*sep2*
         6. If *x*<*length*
            1. Add *encodedString*[*x*] to *fullString*
         7. *Sep1*-=2
         8. *Sep2*-=2
      3. *currentIndex*++
      4. if *currentIndex*==*originalSep1*
         1. *done*=true
   9. return *finalString*
4. *outToFinal*(*decodedString*)
   1. 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  
hsaaoteartststnadeaesnfongiahphhlahrtmtimecemmtlueoannedffds1cibitgitjwneetysrvyneetahdndeitncoaocl23eitmshthtbrgfalcacamatagtoeeshieaophev45enirllrsiidfriosineidnerccootnwelvotcr67nysueesakenuhrigfis  
0

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

dogsayshix  
testing123xx  
thequickbrownfoxjumpsoverthelazydogcoolx  
himynameisstevecandiamcreatinfatestcasegormyalgorithmthaticreatedforchallengefourhundredonthewebsitespojithinkthatthiswasaninterestingchallengetosolveandiamproudofbothitsefficiencyandcleverness1234567

**Actual output** (euler003-test.out contents)

dogsayshix  
testing123xx  
thequickbrownfoxjumpsoverthelazydogcoolx  
himynameisstevecandiamcreatinfatestcasegormyalgorithmthaticreatedforchallengefourhundredonthewebsitespojithinkthatthiswasaninterestingchallengetosolveandiamproudofbothitsefficiencyandcleverness1234567

**Test Case Results: Passed**