COMPUTER SCIENCE 1A P03 DESIGN

Problem Description

Please write a menu-driven program which makes use of the following types of loops as appropriate: while, do-while, for, for-each.

Input & Output

Input	
Integer Value (non-negative)	Standard Input Stream
Char Value	Standard Input Stream
String Value	Standard Input Stream
Output	
Binary Number	Standard Output Stream
Binary Number	Standard Output Stream
Binary String	Standard Output Stream

Data Format

Identifier	Data Type	Description
blnContinue	Boolean	Base 10 number
intNumTerms	Integer (non-negative)	Base 10 number
chSelection	Character	Base 16 digits sequence
intSequence	Integer (non-negative)	Base 10 number
strWord	String	Base 16 digits sequence
strError	String	Base 16 digits sequence

Pseudo Code

let blnContinue = true

Output ← "Enter Number of Terms" intNumTerms

← Input

TEST FOR VALID INPUT

Do the following:

Output ← "A) Generate Triangular Number

Sequence.

"B) Calculate the Product of n Triangular

numbers."

"C) Generate the Inverse of a word."

 "X) Exit." chSelection

← Input

TEST FOR VALID INPUT A ←

Selected for loop from 1 to n Terms

intSequence += a * (a + 1) /2

Output ← intSequence B ← Selected

for loop from 1 to n Terms

intSequence += a * (a + 1) /2

Output ← intSequence

C ← Selected Output ← "Enter

word: " strWord ← Input for each

loop (strWord) chC is each

character in strWord   if

chC is uppercase then

chC = lowercase chC

else   chC = upper

chC

Output ← chC X ←

Selected

blnContinue =

false

while(blnContinue)

UML Activity Diagram