Prac 04 Design

B, Bukanga

221005009

Problem Description

Option A:

Your program must output the following sequence (the number of terms in the sequence is given by the user): 1, 3, 6, 2, 7, 1, 8, 16, 7, 17, 6, 18, 5, 19, 4, 20, 3, 21, 2, 22, 1, 23, 46, 22, 47 (A0469011)

Option B:

Your program must calculate the sum of n A046901 numbers (the total numbers are given by the user)

Option C:

Your program must convert a string input by the user into the reverse version of the input string. The program must be able to handle a string that can potentially contain spaces.

Option X:

Exit program

Input and Output

Option A

Input	
Terms	Standard input stream
Output	
Sequence based on number of terms	Standard output stream

Option B

Input	
Terms	Standard input stream
Output	
Total Based in number of terms	Standard output stream

Option C

Input	
Word	Standard input stream
Output	

Word backwards	Standard output stream

Option X

Input	
Null	
Output	
Exit Application	

Data Format

Identifier	Data type	Description
chOption	Char	Select Character A or B for Option
IntTerms	Integer	Number of terms of sequence
strWord	String	Enter a word to be displayed backwards
intSum	Integer	Sum of values of sequence depending on number of terms

Pseudo Code

ChOption ← User Enter A or B Case A

intTerms ← Capture input for terms

      Display → Sequence

Case B

      intTerms ← Capture input for terms

      Display → Sequence

      Display → Sum

Case C

      StrWord ← Capture String word

Display → String backwards

Case X

Exit program

UML

[Renter value]	
[Conversion error]	Error
	Enter n terms
Select Option	[Valid Input]
	Sum
	Reverse String
	[Invalid Input]
[Renter value]	Error

[Valid Input] Display sequence

[Valid input] Display Sum

[Valid input] Display Bacwards String