



### Practical 3 (due 2022-03-11 @ 09:00)

This practical will further refine your use of flow control constructs. Please write a menu-driven program which makes use of the following types of loops as appropriate: while, do-while, for, for-each. You need to use each specific loop type at least once in the assignment.

Your program should present the user with the following options

- 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 (A046901<sup>1</sup>)
- 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: The program must exit

The design should be based on Option A.

**Important:** Student submissions will be tested for similarity. Student submissions that are too similar to each other will receive zero marks for their submissions.

**Programs that do not compile successfully will be capped at 40%**

Mark sheet		
	Coding style (comments, indentation, naming)	10
	Validating user inputs	10
	Option A logic	10
	Option B logic	10
	Option C logic	10
	Use of do-while loop	10
	Use of while loop	10
	Use of for loop	10
	Use of for-each loop	10
	Design	10
	Total	/100

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<sup>1</sup> <http://oeis.org/A046901>