

UNIVERSITY OF IBRA
Department of Numeracy, Computation, and Probability
CSC108H5 F– (Not) Final Exam
Introduction to Computer Programming

Instructors: Themba Dube, Ibrahim Chehab

Duration: 1 hour

Aids Allowed: God Himself

2023/11/30

Name: _____

Student Number: _____

This exam contains 4 pages (including this cover page) and 2 questions. Please ensure all pages are present before starting this final examination.

Distribution of Marks

Question	Points	Score
1	2	
2	10	
Total:	12	

Part I: Multiple Choice

Answer each question to the best of your abilities. Each question has at most one answer.

1. (2 points) Which of the following is **not** a valid type in Python?
 - A. `type`
 - B. `bytes`
 - C. `Set`
 - D. `set`

Part II: Short Answer

Answer each question to the best of your abilities. Partial answers \implies partial marks. Breaking any restrictions in the question will result in a mark of 0 for that question.

2. (10 points) Let L be a list. We say that L is **happy** if L is in ascending order and contains at least 2 elements which add up to an arbitrary value k . Implement the following method to determine if a list is happy. You may assume that the list is non-empty and contains only integers.

RESTRICTIONS:

- You may **NOT** use `sets`
- Your method **MUST** be $\mathcal{O}(n)$ time (i.e. linear time)
- You may **NOT** use concepts taught outside of the scope of CSC108

This page is intentionally left blank to accommodate work that wouldn't fit elsewhere and/or scratch work.