Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

COMPUTER SCIENCE **0478/02**

Paper 2 Problem-solving and Programming **For examination from 2020**

SPECIMEN PRE-RELEASE MATERIAL

No additional materials are required.

To be given to candidates on receipt by the centre.

READ THESE INSTRUCTIONS FIRST

You should use this material in preparation for the examination. You should attempt the practical programming tasks using their chosen high-level, procedural programming language.

The specimen pre-release material is for general illustrative purposes.

Please see the *Cambridge Handbook* for the specific year in which candidates are taking the assessment. This will tell you when the pre-release material will be available and where to access the materials.

This document consists of **2** printed pages.

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Your preparation for the examination should include attempting the following practical **program coding** tasks.

A teacher needs a program to record marks for a class of 30 students who have sat three computer science tests.

Write and test a program for the teacher.

- Your program must include appropriate prompts for the entry of data.
- Error messages and other output need to be set out clearly and understandably.
- All variables, constants and other identifiers must have meaningful names.

You will need to complete these **three** tasks. Each task must be fully tested.

TASK 1 – Set up arrays

Set-up one dimensional arrays to store:

- Student names
- Student marks for Test 1, Test 2 and Test 3
  - o   Test 1 is out of 20 marks
  - o   Test 2 is out of 25 marks
  - o   Test 3 is out of 35 marks
- Total score for each student

Input and store the names for 30 students. You may assume that the students' names are unique.

Input and store the students' marks for Test 1, Test 2 and Test 3. All the marks must be validated on entry and any invalid marks rejected.

TASK 2 – Calculate

Calculate the total score for each student and store in the array.
Calculate the average total score for the whole class.

Output each student's name followed by their total score.
Output the average total score for the class.

TASK 3 – Select

Select the student with the highest total score and output their name and total score.

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