



Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

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COMPUTER SCIENCE

0478/21

Paper 2 Problem-solving and Programming

October/November 2015

PRE-RELEASE MATERIAL

No Additional Materials are required.

This material should be given to candidates on receipt by the Centre.

READ THESE INSTRUCTIONS FIRST

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

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

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

Write and test a program to complete the **three** tasks.

A new born baby is kept in a cot in a hospital; the temperature of the baby is monitored every 10 minutes. The temperature of the baby is recorded in degrees Celsius to one decimal place and must be within the range 36.0°C to 37.5°C.

TASK 1

To simulate the monitoring required, write a routine that allows entry of the baby's temperature in degrees Celsius. The routine should check whether the temperature is within the acceptable range, too high or too low and output a suitable message in each case.

TASK 2

Write another routine that stores the temperatures taken over a three hour period in an array. This routine should output the highest and lowest temperatures and calculate the difference between these temperatures.

TASK 3

For a baby who has a temperature difference of more than one degree Celsius, and/or has been outside the acceptable range more than twice in the three hour period, output a suitable message giving a summary of the problem.

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

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