OCR

Oxford Cambridge and RSA

A Level Computer Science
H446/03 Programming Project
Sample Guidance for Non Exam Assessment

Programming project (Component 03)

Candidates are expected to demonstrate their ability to analyse, design, develop, test, evaluate and document a program written in a suitable programming language. Appendix 5e reproduced in this document gives a list of programming languages which OCR will accept. If the task demands another choice of language that does not appear in the list, the task outline, the details of the programming language and the reasons for the choice of this language should be submitted to OCR for consideration. Please contact OCR.CompSciAndHSC@ocr.org.uk for further advice and guidance.The problem must be solvable effectively in the chosen language so it is important there is a good match between the requirements of the problem and the language that is chosen.

The nature of the problem chosen is significant in that candidates should be able to demonstrate, through their solutions, an appropriate range of skills identified by the specification; trivial problems, no matter how well they are executed, will not be able to provide this evidence.

Candidates are expected to apply the computational thinking approach identified in component 02 to a practical coding problem and are expected to apply principles from an agile development approach to the project development.

The project should be assessed holistically and, while the assessment criteria are organised into discrete sections, it is unlikely evidence can be similarly organised in the candidate's work. Evidence to support the assessment may be found throughout the project report and should be noted, by reference to page number, or otherwise, on the assessment grid. The assessment criteria are defined in mark bands and teachers should use a best-fit approach, selecting the most appropriate description and quality of match to that description, in order to place the work at the right level in the right mark band.

Non Examined Assessment Guidance

The Project is a substantial piece of work which assesses a variety of different skills including the development and demonstration of computational thought processes. Whilst there are no specific controls linked to the assessment, the following guidance should be considered before candidates embark on this particular assessment.

Context Choice

Candidates will need to choose in liaison with their teacher a well-defined user driven problem. Whilst OCR will not be quality assuring the contexts chosen by candidates, the following criteria should be considered. The choice of project must enable candidates to:

- meet all assessment requirements as contained in the specification
- use an appropriate programming language which is non-trivial and has a substantial coded element
- solve a problem sensibly within the constraints of resources available
- facilitate the successful completion of a whole task from its definition to its acceptance and evaluation by that user
- involve all elements of the skills of analysis, design, development and evaluation
- develop a stand-alone or enhanced/modified solution.

Evidence Generation

It is important that candidates establish thorough and robust working practices at an early stage. The projects should contain as standard a title, a contents list, a description and justification of investigation, analysis, design and methods used, an evaluation and bibliography. Pages should be clearly numbered. Appropriate annotated evidence should be used to support the report – e.g. screen dumps or photographs taken of screen layouts. If candidates have worked in a group for any part of the project then it is important that each candidate generates their own individual, authentic evidence to show that they have met key assessment criteria. Any evidence submitted to demonstrate the development of solution must be able to be assessed without the use of any specific hardware or software.

Whilst there is no word count for this particular assessment, candidates need to focus on the command words used within the assessment criteria. These command words indicate the depth of coverage that is required at each stage of the process and should drive the evidencing approach taken by candidates.

The teacher has an important role in supporting candidates through the evidence generation process. Whilst it is not appropriate for teachers to over-direct candidates in their generation of evidence it is acceptable for them to reinforce concepts and assist with the development of knowledge and understanding at various stages of the process. Acceptable forms of intervention include:

- offering candidates advice about how best to approach each of the tasks
- exercising continuous supervision of work in order to monitor progress and to prevent plagiarism
- ensuring work is completed in accordance with the specification requirements and can be assessed in accordance with the specified marking criteria and procedures.

Safeguarding Problems

It is important that centres put in place the necessary safeguards to both guard against and detect malpractice when it is has occurred. As well as the use of the authentication process it is important that candidates take responsibility for ensuring the work they produce is their own, is appropriately referenced and is a true reflection of their ability. OCR will take swift and decisive action if malpractice is detected and has not been dealt with by the centre prior to authentication taking place.

Acceptable programming languages for the Programming project (03)

The language chosen should be appropriate to the task chosen. If the task demands another choice of language that does not appear in the table below, the task outline, the details of the programming language and the reasons for the choice of this language should be submitted to OCR for consideration.

The acceptable programming languages are:

- Python (with a suitable graphical interface)

- C family of languages (for example C# C+ etc)

- Java

- Visual Basic

- PHP

- Delphi

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