OCR
Oxford Cambridge and RSA

# GCSE (9–1) Computer Science

## J276/03 Programming project – Task 2

Non-examined assessment (NEA) task

# June 2018 series

- Please check on **OCR Interchange** that you have the Non Examined Assessment material valid for the appropriate assessment series.

**INSTRUCTIONS TO TEACHERS**

- Please refer to Section 3f of the GCSE (9–1) Computer Science specification for instructions on completing the Non-Exam Assessment tasks.
- The marking criteria should be available to candidates whilst completing the task.
- The quality of extended response will be assessed in the 'Development and Testing' and 'Evaluation and Conclusions' sections.
- Teachers are responsible for ensuring that the Non-Exam Assessment Material completed is valid for the appropriate assessment series.
- The deadline for submitting NEA marks will be 31 March 2018.

**INFORMATION FOR CANDIDATES**

- The total mark for this component is **40**.
- This document consists of **4** pages.

**Candidates should complete the task and provide evidence to meet all the marking criteria.**

For the following scenario analyse the detailed requirements and, using suitable algorithms, design a solution to be coded in a suitable high-level programming language.

Show the iterative development of the individual solutions with suitable testing throughout the process.

Test the final product and evaluate your solution against the detailed requirements you identified in the analysis. The non-exam assessment must be done using a suitable high level language such as:

- Python
- C family of languages (for example C# C++ etc.)
- Java
- JavaScript
- Visual Basic/.Net
- PHP
- Delphi
- SQL
- BASH

You may use a combination of programming languages to produce a solution to the task.

Teachers **may**:

- explain the task
- advise on resources
- provide the support described within the 'Permitted Support' section of the Specification
- interrogate learners to ensure that the work is their own
- provide a copy of the mark scheme to candidates.

Teachers **must not**:

- give detailed advice and suggestions as to how the work may be improved in order to meet the assessment criteria. This includes indicating errors or omissions and personally intervening to improve the presentation or content of the work
- practise the task with the learners
- practise tasks which are similar in nature with the learners
- provide templates, model answers or feedback on drafts
- produce templates or model answers and publish them online.

Teachers **must** ensure that:

- learners do not access the internet*
- learners are not allowed to take the NEA tasks home with them
- all work presented for submission must have been completed under supervised conditions
- accounts associated with the NEA tasks must be locked between sessions to ensure that learners cannot access them outside of the supervised conditions
- learners do not access online file storage accounts or email during the supervised conditions in order to prevent learners from completing work at home and bringing it into the supervised conditions.

*unless the centre is using an online IDE, in which case, only access to the IDE website is allowed.

**Scenario**

OCRtunes is an online music streaming service that allows a user to stream music from its song library. OCRtunes collects and stores data about the users and their listening preferences. You are required to write a program to manage the data about the user and their music preferences.

OCRtunes has a song library* which contains details about each song. No songs have the same song title. The library stores the following details about each song:

- Song title
- Artist
- Genre
- Song length.

The system allows a user to create playlists (a valid playlist must contain at least one song). The system stores each playlist and the user can select a saved playlist to view.

When users sign up to OCRtunes they create an account and must enter their:

- Name
- Date of birth
- Favourite artist
- Favourite genre.

Analyse the requirements for this system and design, develop, test and evaluate a program that:

1. allows a user to create an account, and then input and store their details.
2. allows a user to edit their favourite artist and favourite genre.
3. allows a user to display an alphabetical list of the song titles in the song library, including the artist and track length for each song title.
4. allows a user to create, save and view playlists**. The play list should contain the Song title, Artist and Song length.
5. automatically generates new playlists for the user using the following criteria:
    a. the user inputs a time limit (e.g. 10 minutes) and it generates a playlist that does not last longer than this time.
    b. the user inputs a genre (e.g. Pop) and it generates a playlist that contains up to five songs for that genre.
6. allows the user to enter an artist's name and save all of the songs in the song library by that artist to a text file.
7. allows the creators of OCRtunes to display a list of each of the genres within the song library and the average length of all tracks for that genre.

**NOTE FOR CANDIDATES:**
* The song library must contain twenty songs. There must be at least three different genres and five different artists in the library.
** You must test this with at least three play lists.