National 5
Coursework
Assessment Task

# National 5 Computing Science Assignment

# Finalised Marking Instructions



These marking instructions have been prepared by examination teams for use by SQA appointed markers when marking external course assessments.

# Marking instructions

## General marking principles for National Computing Science assignment

This information is provided to help you understand the general principles that must be applied when marking candidate responses in this assignment. These principles must be read in conjunction with the specific marking instructions, which identify the key features required in candidate responses.

a Marks for each candidate response must **always** be assigned in line with these general marking principles and the specific marking instructions for this assessment.

b Marking should always be positive. This means that, for each candidate response, marks are accumulated for the demonstration of relevant skills, knowledge and understanding: they are not deducted from a maximum on the basis of errors or omissions.

c Deputy Principal Assessors will provide guidance on marking specific candidate responses which are not covered by either the principles or specific marking instructions

# Specific marking instructions

| Task | Expected response | Additional guidance | Marks available | |
|---|---|---|---|---|
| **1** | **Database design and development** | | | |
| 1a | **1 mark** for completing each missing item<br><br>videoID – primary key<br>vloggerID – foreign key<br>videoName – required<br>duration - number<br>rating – >=1 and <=5 | Rating could also be:<br>• 1,2,3,4,5<br>• >0, <6<br>• 1-5, 1 to 5 | 5 | Design(5) |
| 1b | **1 mark** each for printed evidence of:<br><br>♦ Length Check = 6 on username<br>♦ Restricted Choice including: Programming, Gaming, Baking, Crafts, Makeup, Clothes on expertise | Field size 6 is not acceptable as this could allow <=6 characters.<br><br>Check syntax of SQL if unsure. | 2 | Implementation (8) |
| 1ci | **1 mark** each for:<br>♦ SELECT username, videoname<br>♦ FROM Vlogger, Video<br><br>1 mark each for WHERE conditions:<br>♦ rating>3<br>♦ Video.vloggerID = Vlogger.vloggerID ; | Conditions could use either AND or comma depending on database environment.<br><br>Check syntax of SQL if unsure.<br><br>Note that if the candidate has generated SQL using an application no marks should be awarded. | 4 | |

| Task | Expected response | Additional guidance | Marks available | |
|---|---|---|---|---|
| **1** | **Database design and development** | | | |
| 1cii | **1 mark** for each for:<br><br>♦ DELETE FROM Video<br>♦ WHERE videoID=3 | Do not award a mark if the construct of the DELETE contains additional keywords either above or within the DELETE. If unsure test the candidates SQL.<br><br>Alternative correct answers:<br><br>DELETE * FROM Video<br>WHERE videoID=3<br><br>DELETE Video.* FROM Video<br>WHERE videoID=3<br><br>DELETE videoID, vloggerID, videoName, duration, dateCreated, content, rating<br>FROM Video<br>WHERE videoID=3<br><br>DELETE FROM Video<br>WHERE videoID=3 AND videoName= ”slime”<br><br>Note that if the candidate has generated SQL using an application no marks should be awarded. | 2 | |

| Task | Expected response | Additional guidance | Marks available | |
|---|---|---|---|---|
| **2** | **Software design and development** | | | |
| 2a | **1 mark** for each:<br><br>**Input :** Enter the number of usernames<br><br>**Process**: Generate random number<br>or<br>Generate/select (random) endings<br><br>**Output**: Display the list of generated usernames | <br><br><br><br><br><br>Must be plural unless very clearly explained that input was only one student. | 3 | Analysis (3) |
| b | One mark each for:<br>♦ Array of strings used to store endings<br>♦ Assign endings | | 2 | Implementation (15) |
| | Variables or arrays used to store:<br>♦ partial student name<br>♦ username | Variable/array names may be anywhere within code | 1 | |
| | Input number of students | | 1 | |
| | One mark each for:<br>♦ single fixed loop which matches design<br>♦ correct number of iterations for input | | 2 | |
| | Input Validation: input validation carried out before username is generated | | 1 | |
| | Input Validation: loop condition correct | Condition loop may be either pre or post condition:<br>• Length(Partial Name) = 3<br>• Length(Partial Name) NOT(3) | 1 | |
| | Input Validation: input inside loop | If no validation loop at all a single mark may be awarded for the input. | 1 | |
| | Input Validation: error message inside loop | | 1 | |
| | 1 of 5 random numbers generated/stored | | 1 | |

| Task | Expected response | Additional guidance | Marks available | |
|---|---|---|---|---|
| **2** | **Software design and development** | | | |
| b | Use random number to select correct ending | | 1 | Implementation (15) |
| | Step 6 refinement matches design | Award mark if candidate uses else if (with criteria on each line).<br><br>Do not award a mark if else if is completed with else. | 1 | |
| | Concatenation student name and ending | | 1 | |
| | Display username | | 1 | |
| c | One mark for each correct example of test data:<br>♦ normal<br>♦ exceptional | Accept multiple answer in each test table box.<br><br>Do not accept:<br>• 123, 567 etc as exceptional data as this would be accepted as a 3 character string.<br>• a description of normal and exception test data (for example: normal = 3 characters)<br>• screenshots of a test run, as a test table should include potential tests to be carry out | 1 | Testing (3) |
| d | Printed evidence of the output of a test run showing 6 usernames, each starting with chr. | If no input validation in code then accept usernames which include the full student names. (for example Chrising) | 1 | |

| Task | Expected response | Additional guidance | Marks available | |
|---|---|---|---|---|
| **2** | **Software design and development** | | | |
| e | Evaluation of efficiency of constructs within the candidates own code may include:<br><br>♦ inefficiency<br>○ Multiple if statements used instead of a single if<br>○ If statement could have used array index instead of multiple if statements<br>♦ efficiency<br>○ Use of an array instead of separate variables for endings<br>○ Use of loops to reduce code | Other acceptable answers may be marked correct if evident in candidates code. | 1 | Evaluation (4) |
| | Evaluation of robustness of candidates own code may include:<br><br>♦ Discussion of validation or absence of validation | | 1 | |
| | Evaluation of readability:<br><br>♦ Discussion of candidates own code. | Evaluation must contain an element of evaluation rather than simple statements of terms. For example "I have used white space to highlight structures in my program" not "I have used white space". | 1 | |
| | Evaluation of Fitness for purpose of the solution may include:<br><br>♦ Username not unique<br>♦ Limited number of endings | | 1 | |

| Task | Expected response | Additional guidance | Marks available | |
|---|---|---|---|---|
| **3** | **Web design and development** | | | |
| 3a | Functional requirements could include two of the following for **1 mark** each:<br><br>♦ must be able to display the title text "Too Good to Throw Away!"<br>♦ must be able to display the clothes photograph<br>♦ must be able to display coloured sections "what we need"/"what we have in stock"<br>♦ must be able to display numbered list of the items wanted by the charity shop<br>♦ must be able to play the video showing current stock | Answers must refer to what the code has to do.<br><br>Answers must relate to scenario. | 2 | Analysis(2) |
| b | Using the printout of the HTML file, confirm the following for **1 mark** each:<br><br>♦ content added within structural head, body elements and all five items of text/graphic/video within appropriate elements<br>♦ video added with size 300x240<br>♦ CSS styles included anywhere within HTML document | Text and graphic content:<br>♦ Heading – "Too Good to Throw Away!"<br>♦ Graphic (clothes.png)<br>♦ What we need subheading<br>♦ Numbered list using correct <ol> element<br>♦ What we have in stock subheading<br><br>Video size may be implemented using CSS rules. | 3 | Implementation (7) |
| | Using the CSS and HTML, confirm the following for **1 mark** each:<br>Note that styles may be implemented using elements, ids or classes.<br>♦ All three Headings styled using a single rule<br>♦ Numbered List styled<br>♦ Graphic sized correctly 300x200 (CSS or HTML)<br>♦ Three colours:<br>o page background green<br>o sub-section 1 light blue<br>o sub-section 2 white | `Headings`<br>`{font-size:18px;`<br>`text-align:center;`<br>`font-family:calibri;`<br>`color:darkblue}`<br><br>`Numbered List`<br>`{font-size:12px;`<br>`font-family:calibri;`<br>`color:white}`<br><br>Accept either pt or px for font sizes. | 4 | |

| Task | Expected response | Additional guidance | Marks available | |
|---|---|---|---|---|
| **3** | **Web design and development** | | | |
| 3c | The test table may include any two of the following, for **1 mark** each, from:<br><br>♦ Media (text, graphic or video) is displayed correctly<br>♦ Content sized correctly<br>♦ Colours displayed correctly<br>♦ Video plays correctly<br>♦ Content position matches design<br>♦ Content styles match design | These are tests that could be carried out on this web page. | 2 | Testing (2) |
| d | Evaluation of fitness for purpose of candidate's own solution and its match to one of:<br><br>♦ the bullet list of requirements in the introduction of task 3<br>♦ their functional requirement answers to 3a<br>♦ the wireframe given in task 3b<br><br>or<br><br>Evaluation of fitness for purpose in relation to the problem and solution. For example:<br>♦ The page has no contact details<br>♦ The page does not include the location of shop to donate clothes | | 1 | Evaluation |

| Task 1 – Database Design and Development | | Marks Available | Marks Awarded |
|---|---|---|---|
| 1a – Design | videoID | 1 | |
| | vloggerID | 1 | |
| | videoName | 1 | |
| | Duration | 1 | |
| | Rating | 1 | |
| **1a – Design total** | | **5** | |
| **1b – Implementation** | Length check | **1** | |
| | Range/restricted choice | **1** | |
| **1b – Implementation total** | | **2** | |
| 1c(i) – Implementation | SELECT correct fields | 1 | |
| | FROM both tables | 1 | |
| | Correct Criteria | 1 | |
| | Correct Join | 1 | |
| **1c(i) – Implementation total** | | **4** | |
| 1c(ii) – Implementation | DELETE FROM correct table | 1 | |
| | WHERE correct criteria | 1 | |
| **1c(ii) – Implementation total** | | **2** | |

| Task 2 – Software Design and Development | | Marks Available | Marks Awarded |
|---|---|---|---|
| 2a – Analysis | Input | 1 | |
| | Process | 1 | |
| | Output | 1 | |
| **2a – Analysis total** | | **3** | |

| | | Marks Available | Marks Awarded |
|---|---|---|---|
| **2b - Implementation total** | | | |
| Array of strings used for endings | | 1 | |
| Assign endings | | 1 | |
| Partial student name and username stored | | 1 | |
| Input number of students | | 1 | |
| Fixed loop | Single fixed loop which matches design | 1 | |
| | Correct number of iterations for input | 1 | |
| Input validation | Conditional loop used in correct place | 1 | |
| | Correct condition for loop | 1 | |
| | Input string | 1 | |
| | Error message inside loop | 1 | |
| Random number generated | | 1 | |
| Random number used to select correct ending | | 1 | |
| Step 6 refinements match design | | 1 | |
| Concatenation | | 1 | |
| Display username | | 1 | |
| **2b - Implementation total** | | **15** | |
| 2c – Testing | Normal data example | 1 | |
| | Exceptional data example | 1 | |
| **2c - Testing total** | | **2** | |
| **2d - Test Run** | | **1** | |
| 2e – Evaluation | Efficiency | 1 | |
| | Robustness | 1 | |
| | Readability | 1 | |
| | Fitness for purpose | 1 | |
| **2e - Evaluation total** | | **4** | |

| **Task 3 – Web Design and Development** | | Marks Available | Marks Awarded |
|---|---|---|---|
| **3a - Analysis** | | **2** | |
| 3b – Implementation HTML | Text and graphics added | 1 | |
| | Video added with size | 1 | |
| | Internal CSS styles | 1 | |
| 3b – Implementation CSS | Headings style | 1 | |
| | Numbered list style | 1 | |
| | Graphic sized | 1 | |
| | Three colours implemented | 1 | |
| **3b - Implementation total** | | **7** | |
| **3c - Testing** | | **2** | |
| **3d - Evaluation** | | **1** | |

| | Marks Available | Marks Awarded |
|---|---|---|
| **Assignment total** | **50** | |

**[END OF MARKING INSTRUCTIONS]**