National 5
Coursework
Assessment Task

National 5 Computing Science

Assignment

Finalised Marking instructions

Marking instructions

General marking principles

Always apply these general principles. Use them in conjunction with the specific marking instructions, which identify the key features required in candidates' responses.

a Always use positive marking. This means candidates accumulate marks for the demonstration of relevant skills, knowledge and understanding; marks are not deducted for errors or omissions.

b If a candidate response does not seem to be covered by either the principles or detailed/specific marking instructions, and you are uncertain how to assess it, you must seek guidance from your team leader.

c Award marks regardless of spelling, as long as the meaning is unambiguous and does not result in a syntax error in implemented code.

d For design and implementation tasks, a sample response may be shown in the detailed marking instructions. This will not be the only valid response. You must use the detailed marking instructions and additional guidance to ensure that you consider alternative approaches and nuances of different programming languages. If in doubt, you should refer to your team leader.

e A correct response can be negated if the candidate includes an extra, incorrect response which demonstrates they do not know the correct answer. For example, in a 'state' question where the only correct answer is 'white', if the candidate answers 'white orange', you should not award the mark.

f If a candidate puts a score through their entire response to a question and makes a further attempt, you should only mark the further attempt. If no further attempt is made and the original is legible, you should mark the original response.

g In the marking instructions, if a word is underlined then it is essential; if a word is in brackets() then it is not essential. Words separated by / are alternatives.

Specific marking instructions

Task 1 — software design and development

Task	Expected response	Max mark	Additional guidance
1a	♦ apropriate drink selected (milkshake, smoothie or fruit juice) ♦ validate fruit name or a correct description of the validation ♦ check if you want to enter another fruit	**2**	Award 1 mark for each bullet. Maximum 2 marks. Take care that candidate doesn't repeat/reword processes already given: ♦ check no more than 6 fruits entered ♦ select mystery fruit option ♦ calculate total number of fruits
1b	♦ conditional loop ♦ input of fruit inside loop ♦ ensure input is at least 4 characters	**3**	
1c	♦ the fruits you entered were(.) lemon pear peach orange the mystery fruit is(.) mango ♦ (fruit) juice	**2**	List of fruits may be written vertically or horizontally.

Task	Expected response	Max mark	Additional guidance
1d	**Initialise variables (2 marks)** ♦ array storing ten mystery fruits ♦ empty array to store users fruits ♦ counter = 0 ♦ decision **Input validation (3 marks)** ♦ conditional loop with correct condition ♦ input of all fruits within validation loop ♦ error message displayed inside loop **Fruit loop (4 marks)** ♦ add fruit entered to array inside the loop ♦ increment counter inside the loop ♦ ask user for decision regarding another fruit entry inside the loop ♦ end conditional loop when user enters no or counter = 6 **Mystery fruit (1 mark)** ♦ generate random number between 0 and 9 **Generating outputs (5 marks)** One mark each for the following outside the fruit loop: ♦ display array of fruits entered ♦ display a random mystery fruit ♦ add 1 to counter ♦ if structure with correct conditions ♦ correct drink messages associated with conditions	**15**	Ensure condition matches the type of loop used. Accept either nested if or if-else if-else structures.
1e	**Efficiency:** • comment on efficiency or inefficiency of own code **Robustness:** • comment on one aspect of robustness of own code **Readability:** ♦ readability — comment on one aspect of readability in the candidate's own code	**3**	In efficiency and robustness, candidates should not give a generic answer that could apply to any program. Answers must contain examples from the candidate's code. Evaluation of readability 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". The candidate's code must also show evidence of this for a mark to be awarded.

Task 2 — database design and development

Task	Expected response	Max mark	Additional guidance
2a	♦ (A Query/Search) to find humidity and temperature of climates ♦ (Query) to insert new plant records ♦ (A Query/Search) to find plants which grow in a particular climate ♦ (A Query) to update plant (or climate) data when required ♦ the database should have table to store climate data ♦ the database should have table to store plant data ♦ the database needs a field to store...	**2**	Award 1 mark for each bullet. Maximum 2 marks.
2b	♦ unique identifier for climate ♦ type, temperature, humidity – no additional inputs	**2**	Candidates may choose their own input names to represent those shown. Ignore the addition of a FK for Plant.
2c	♦ FK climateRef ♦ text, 5, Y, (restricted choice) - clay, loam, peat, sandy	**2**	
2d(i)	♦ `INSERT INTO Climate (climateRef, climateType, temperatureRange, humidityRange)` ♦ `VALUES (105, 'Temperate Oceanic', '15-20', '70-80');`	**1**	`INSERT INTO Climate VALUES (105, 'Temperate Oceanic', '15-20', '70-80');` Do not award any marks if the candidate's SQL is generated by an application.
2d(ii)	♦ `UPDATE plant SET climateRef = 103` ♦ `WHERE ediblePart = 'Fruit';`	**2**	Do not award any marks if the candidate's SQL is generated by an application.

Task	Expected response	Max mark	Additional guidance
2d(iii)	♦ `SELECT plantName, climateType, ediblePart, soilType, temperatureRange FROM Climate, Plant` ♦ `WHERE Climate.climateRef = Plant.climateRef` ♦ `AND ediblePart='Leaves'` ♦ `ORDER BY temperatureRange DESC;`	**4**	Do not award any marks if the candidate's SQL is generated by an application.
2e	♦ missing Plant table in FROM ♦ no join	**2**	

Task 3 — web design and development

Task	Expected response	Max mark	Additional guidance
3a	♦ display a name and description of each invention ♦ display an image of an invention ♦ include/have an external link to scottish enterprise site ♦ include/have/play a video of a silent crisp packet	**2**	Award 1 mark for each bullet. Maximum 2 marks.

3b	**HTML**
	♦ three heading sizes and page separated into 6 sections
	♦ video "crisps.mp4"
	♦ external link
	♦ image with sizes
	
	CSS
	♦ **Body:**
	`background-color: lavender(#e6e6fa);`
	`font-family: Arial;`
	`font-size:14pt;`
	`(color: black(#000000))`
	
	♦ **Sections:**
	top section
	`background-color: white(#ffffff);`
	`text-align: center;`
	4 middle sections
	`background-color: lightblue(#add8e6);`
	bottom section
	`background-color: white(#ffffff);`
	
	♦ **Headings**
	Amazing Menzies:
	`font-size: 64pt;`
	`font-family: Brush Script MT;`
	`color: cornflowerblue (#6469ed)`
	Innovator and Entrepreneur:
	`font-size: 32pt;`
	`color: tomato(#ff6347)`
	Invention headings:
	`font-size:18pt`
	
	♦ **External link text**
	`color:cornflowerblue (#6469ed)`
		8	If a correct style is overwritten by another do not award the mark for the original correct style.
			
			Additional style information can be ignored provided they do not alter the styles that are being assessed.
			
			Images can be sized using a variety of methods.
			
			Only the link should be cornflowerblue NOT the whole bottom section.

Task	Expected response	Max mark	Additional guidance
3c	♦ matches user-interface design ♦ links and navigation work correctly ♦ media (such as text, graphics, and video) display correctly ♦ consistency	**1**	Award 1 mark for any one bullet.
3d	♦ onmouseover/onmouseout ♦ descriptions of interactivity	**2**	Accept descriptions of onmouseover/ onmouseout. Some examples of interactivity are: enlarge image, change text size, highlight elements, add menus, add interactive buttons.
3e	♦ internal pages linked and external link ♦ current content split into at least 2 other pages	**2**	

[END OF MARKING INSTRUCTIONS]