

OXFORD

INTERNATIONAL  
AQA EXAMINATIONS

# INTERNATIONAL GCSE COMPUTER SCIENCE

(9210/1) Paper 1

Report on the examination

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June 2022

## REPORT ON EXAMINATION: INTERNATIONAL GCSE COMPUTER SCIENCE 9210/1 PAPER 1 JUNE 2022

### QUESTION 01

Most students were able to give one advantage of using subroutines for part 1.1 but few were able to give three advantages.

Part 1.2 was generally answered well. If any code, other than the identifier, is included students will not get the mark for questions where they are asked to “state the name”. This was a more common error in answers for part 1.3 than part 1.2.

Part 1.4 asked students to describe the selection structure. Answers which did not include a written description of the structure did not get the mark; some students simply copied and pasted the code from the skeleton program.

Part 1.5 was not very well answered. Most students were not able to articulate clearly why a one-dimensional array would be easier to use than a two-dimensional array in this context.

### QUESTION 02

About 50% of students were able to explain what was meant by indefinite iteration for part 1.1. Good answers made it clear that indefinite iteration structures are controlled by a condition or that they would repeat an unknown number of times. Common mistakes included just describing iteration or describing definite iteration. Part 1.2 was also about types of iteration, again many students clearly did not understand the difference between definite and indefinite iteration so were unable to get the mark for this question.

Part 2.3 was one of the most challenging questions on the paper. Good answers contained explanations that were clearly linked to the skeleton program and talked about the need to skip over the starting pit and/or to wrap around to the beginning of the board from the end. Some responses just talked about what remainder division was rather than linking it to the scenario.

Question part 2.4 was not well answered, but some students were able to get full marks for the trace table. About 20% of students did not attempt the question and would have been able to get at least one mark for setting the initial values of `Seeds`, `PitCount` and `DropPit` correctly even if they had not gone on to complete the rest of the trace.

### QUESTION 03

Question parts 3.1 and 3.2 were very well tackled. This was a simple programming question, similar to questions that have been asked in the past. Students were able to add additional output(s) in the correct place. The most common reason for not getting full marks was to omit the output of a blank line after the message.

### QUESTION 04

Most students were able to add a selection structure when answering this question. The most common errors were to use assignment (`=` in Python) instead of testing for equality (`==` in Python), adding an if or else-if structure after the existing else statement in the subroutine (meaning it would return “play” instead of “drawn”) or checking if the two player’s scores were equal but not also checking that they were equal to half the number of seeds (which would mean there would be times when “drawn” would be returned but the game unfinished).

### QUESTION 05

A significant number of students used a selection structure instead of an iteration structure in their answer for part 5.1, despite the requirement for the user entry to be repeated until a pit containing seeds was picked. Students who did this were able to get some marks on this question but not full marks. Good answers recognised that iteration was needed and were also able to use array indexing in their condition.

Overall, students found writing an iteration structure more challenging than a selection structure, though over 40% got full marks. A number of students used `Pit` instead of `Board[Pit]` in their answers, mixing up the pit in position zero and a pit containing zero seeds.

## QUESTION 06

As was the case for question 5, over 40% of students got full marks for question 6.

Some good answers combined multiple Boolean conditions together to control the iteration structure; others had just one condition that checked the value of a Boolean variable that could have its value changed by a series of selection structures inside the iteration structure.

Some students struggled to combine multiple conditions together, a common mistake was to miss out the variable from the second and subsequent conditions e.g. `while PitCount < 10 or > 20` instead of `while PitCount < 10 or PitCount > 20`.

## QUESTION 07

Students found this question more challenging than questions 5 and 6. The main difficulties students encountered when writing the program code for this question were indexing a position within an array and calculating the remainder. This suggests some students would have benefited from spending more time studying the skeleton program before the exam, as there were examples of both of these there; students could have used these to help them work out how to write the code needed for part 7.1.

## QUESTION 08

Most students were able to get some marks on this question, one of the two longer programming questions on the paper. However, only about 10% of students got full marks.

10% of students did not attempt part 8.1, this is more than the 5% who did not attempt part 3.1 even though the programming skill required was the same. Students should be encouraged to attempt all questions, on the longer programming questions there will be some marks that are no harder to get than the simpler programming questions from earlier in the paper.

For part 8.2, many students were able to add an additional selection structure and call the `GetInitialValues` and `SetupBoard` subroutines. As was the case for part 4.1, a common error was to use assignment (`=` in Python) instead of testing for equality (`==` in Python).

The most commonly obtained marks for part 8.3 were for adding an additional selection structure, the call to `CreateBoard`, displaying the message and setting up `State`. While many students called `CreateBoard`, fewer used the correct parameter values.

When generating random numbers, a number of students used the wrong range, with the upper limit frequently being one too high or one too low.

There were some very good answers where students missed out including the message about setting up a random board, one of the easier marks to get in part 8.3.

## QUESTION 09

37% of students did not attempt to answer question 9. Students should be encouraged to include their attempt at every question, even if the code they have written does not work. There were some students who managed to get some marks by doing this even though their code was incomplete and not close to providing the expected functionality.

For part 9.1, most students were able to create a new subroutine with the required parameters. There were many examples of subroutines in the skeleton program that they could use to help them work out how to do this.

Some good answers did not get full marks because they did not use the message `Collected Seeds` specified in the question paper and because they had not taken into account the need to wrap round to the beginning of the board when the end of the board was reached

It is good practice for students to include the entire program code for a subroutine they have modified when answering a question on the paper. There were a number of responses seen that only included the code the student had written for part 9.2 which meant that, if they couldn't show evidence of the program running indicating that the code had been put in the correct place in the subroutine, they did not get the mark for putting a selection structure after the call to `GetMove`.

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