GCST

# 2.1.4
# THINKING LOGICALLY
## TOPIC WISE EXAM QUESTIONS

A-LEVEL OCR

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SPEC

| | | |
|---|---|---|
| **4 Thinking logically** | a) Identify the points in a solution where a decision has to be taken.<br>b) Determine the logical conditions that affect the outcome of a decision.<br>c) Determine how decisions affect flow through a program. | Candidates need to understand that decisions are made within programs, and they need to be able to identify where these decisions will take place within an algorithm or program. They need to understand what these decisions are, and the impact of these decisions (and the outcomes) on the algorithm/program. Candidates need to understand that there can be many different routes through a program, and understand how decisions influence these routes and outcomes. |

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# 2023

AS - Level

2 Taylor is designing a program for a client who would like to simulate earthquakes on major cities around the world in 3D. The client would like to be able to view any stage of an earthquake such as:

1. the build-up of the earthquake
2. the earthquake taking place
3. the aftershocks of the earthquake.

The client would also like to be able to play the simulation at different speeds. For example, a slow, normal or fast speed.

**(ii)** One decision point in the program will be to decide if the user inputs are suitable or not.

Identify **two** other example decision points in this program.

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2 .....

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**[2]**

# 2022

6 A card game uses a set of 52 standard playing cards. There are four suits; hearts, diamonds, clubs and spades. Each suit has a card with a number from; 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13.

The card game randomly gives 2 players 7 cards each. The unallocated cards become known as the deck.

The players then take it in turns to turn over a card. A valid move is a card of the same suit or the same number as the last card played.

The winner is the first player to play all of their cards.

**(ii)** The programmer will use a branching (selection) construct to make decisions.

Describe the decisions that will be made in the `checkValid()` function and how these change the return values.

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..... **[3]**

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# 2019

4 Mabel is a software engineer. She is writing a computer game for a client. In the game the main character has to avoid their enemies. This becomes more difficult as the levels of the game increase.

(ii) Describe the decision that the program will need to make within the user input sub-procedure and the result of this decision.

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..... [2]

# EXTRA

1. A supermarket uses a stock control system.

Details of products are stored on a stock database.

Explain how the system used in the supermarket can control the quantity of tins of beans in stock so that the chance of running out is minimised.

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[6]

If you found this useful, drop a follow to help me out!

THANK YOU!

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