AS
COMPUTER SCIENCE

Paper 1

June 2026

Preliminary Material

To be opened and issued to candidates on or after **1 March 2026** subject to the instructions given in the **Teacher's Notes** (7516/1/TN).

Note

- The **Preliminary Material** and **Skeleton Program** are to be seen by candidates and their teachers **only**, for use during preparation for the examination on **Tuesday 12 May 2026**.
  They **cannot** be used by anyone else for any other purpose, other than that stated in the instructions issued, until after the examination date has passed. They must **not** be provided to third parties.

Information

- A Skeleton Program is provided separately by your teacher and must be read in conjunction with this Preliminary Material.
- You are advised to familiarise yourself with the Preliminary Material and Skeleton Program before the examination.
- A copy of this Preliminary Material and the Skeleton Program will be made available to you in hard copy and electronically at the start of the examination.
- You must **not** take any copy of the Preliminary Material, Skeleton Program or any other material into the examination room.

INSTRUCTIONS FOR CANDIDATES

The question paper is divided into **three** sections.

Section A

You will be asked to create a new program and answer questions **not** related to the **Preliminary Material** or **Skeleton Program**.

Section B

Questions will refer to the **Preliminary Material** and the **Skeleton Program**, but will not require programming.

Section C

Questions will use the **Preliminary Material** and the **Skeleton Program**.

Electronic Answer Document

Answers for **all** questions, in **all** sections, must be entered into the word-processed document made available to you at the start of the examination and referred to in the question paper rubrics as the **Electronic Answer Document**.

Preparation for the Examination

You should ensure that you are familiar with this **Preliminary Material** and the **Skeleton Program** for your programming language.

Elimination

Elimination is a two-player game in which the objective is to leave your opponent with just one tile when it is their turn to play.

The board can be of any size, and every square on the board contains a tile or is empty.

In **Figure 1**, for example, square `A2` contains a tile and square `B3` is empty.

Figure 1

```
    A   B   C   D
1| [X] [X] [X] [X]
2| [X] [ ] [ ] [X]
3| [ ] [ ] [X] [X]
4| [X] [X] [X] [X]
```

When it is a player's turn, they can make a move that removes one or more tiles. Any number of tiles can be removed by a move if they form a continuous run of tiles that includes no empty squares. Examples of valid and invalid moves are shown in **Figure 2**.

Figure 2

```
    A   B   C   D
1| [X] [X] [X] [X]
2| [X] [ ] [ ] [X]
3| [ ] [ ] [X] [X]
4| [X] [X] [X] [X]
```

Any individual tile can be removed by entering its reference. In this case, the highlighted tile would be removed by entering the move `C3`

```
    A   B   C   D
1| [X] [X] [X] [X]
2| [X] [ ] [ ] [X]
3| [ ] [ ] [X] [X]
4| [X] [X] [X] [X]
```

A horizontal run of tiles, of any length up to the width of the board, can be removed from a row by entering the appropriate range. Here, all the tiles in the top row can be removed by entering the move `A1-D1`

```
    A   B   C   D
1| [X] [X] [X] [X]
2| [X] [ ] [ ] [X]
3| [ ] [ ] [X] [X]
4| [X] [X] [X] [X]
```

A vertical run of tiles, of any length up to the height of the board, can be removed from a column in the same way as from a row. Here, the three highlighted tiles in the last column can be removed by entering the move `D1-D3`

```
    A   B   C   D
1| [X] [X] [X] [X]
2| [X] [ ] [ ] [X]
3| [ ] [ ] [X] [X]
4| [X] [X] [X] [X]
```

Column C cannot be cleared in a single move, because the square at C2 is empty, and so the move `C1-C4` does not select a continuous run.

A square on the board can be identified by either a **reference** or **coordinates**.

- A **reference** consists of a letter and a number. For example, `A1` refers to the top-left square of the board.
- **Coordinates** consist of a row number and a column number, both of which are zero-based integers. The top-left square of the board is in row 0 and column 0.

The Skeleton Program contains subroutines which convert between these two ways of specifying squares.

The game is won when a single tile remains on the board. The player who made the previous move has won the game.

The game has options to change the size of the board and to enable or disable a **random** option, which removes some tiles before the start of the game when enabled. If the **random** option is disabled, a new game starts with a board that is full of tiles.

END OF PRELIMINARY MATERIAL

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