**Array Game**

**Objective:** To move an element inside a single dimension array where a single dimension array is represented has a 2D array.

**Methods Used:**

**Output():** To represent the single dimension array into a 2D array.

**Shift():** To swap the elements inside the array.

**Game():** To control the element inside the array using keys on Numpad.

**Code explanation:**

**Main(String [] args):**

**Text

Description automatically generated**

Calling the methods

Creating a 1D array

Initializing the array

The above main(String[] args) is creating a 1D array and initializing the array and calling the methods.

**Output(int[] grid, int size):**

Text

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Representing 1D array into 2 D array

The above output(int[] grid, int size) is representing a 1D array into a 2D array. This method takes array and size has input and prints the elements in the 2D array matrix.

**Shift(int [] grid, int size, int button):**

Text

Description automatically generated

The element is shifted based upon the button.

Finding the position of element 1.

The shift (int [] grid, int size, int button) takes an array, size and button has input and shifts the element based upon the input of the button.

**Game(int [] grid, int size):**

Text

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If the element tries to exceed the left column of the array this condition gets executed, or else the element is shifted to left side.

If the element tries to exceed the array's bottom row, this condition gets executed, or else the element is shifted to down side.

Taking button input

Text

Description automatically generated

If the element tries to exceed the top row of the array this condition gets executed, or else the element is shifted to the up side.

If the element tries to exceed the right column of the array this condition gets executed, or else the element is shifted to the right side.

The game(int [] grid, int size) is used to move the element inside the array by using keys on the num pad(2,4,6,8) and make sure the element does not exceed the array.

**Output:**

**A picture containing text

Description automatically generated Element shifting downwards.
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Op1: creating the grid Op2: Moving element towards the downside

**A picture containing calendar

Description automatically generated A picture containing calendar

Description automatically generated**

Op3: Moving element towards the right side Op4: Moving element towards the left side

**A picture containing table

Description automatically generated A screenshot of a computer

Description automatically generated with medium confidence**

Op5: Moving towards the up side Op6: Error if tries to exceed the array

**Project URL**: <https://github.com/murugan128862/MuruganTeam.git>

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**Thank You**