1. What do you mean by an Array?
   Answer: An array is a data structure in programming that stores a collection of elements of the same type. The elements are stored in contiguous memory locations, and each element can be accessed using an index. The index is a unique integer for each element in the array, starting from 0.

2. How to create an Array?
   Answer: Array can be created in the following ways:
   a. Using the 'new' keyword
      int[] array = new int[5];

      When creating an array using 'new' keyword, the size of the array must be specified, and the size cannot be changed later. The elements of the array are initialized to their default values (0 for numeric, '\u0000' for char, false for boolean and null for reference type)

   b. Using the short syntax:
      int[] array = {1, 2, 3, 4, 5};

3. Can we change the size of an array at the run time?
   Answer: No, we can't change the size of an array on the run time however we can assign a new array of different sizes to the array variable.

4. Can we declare an array without assigning the size of an array?
   Answer: No in Java, we cannot declare an array without specifying its size. An array in java must have a fixed size, which means that we must specify the number of elements the array can hold when we declare it.

5. What is the default value of Array?
   Answer: Default values for different data types in an array are:
   a. For numeric primitive types (byte, short, int, long, float, double) the default value is 0.
   b. For the char type, the default value is '\u0000', which is the Unicode null character.
   c. For the boolean type, the default value for array is false.
   d. For reference types (e.g. objects, arrays), the default value is null.

6. What is 1D array with an example?
   Answer: A 1D array also known as a one-dimensional array, is a linear data structure in Java that stores a sequence of elements of the same type. The elements are stored in contiguous memory locations and can be accessed using an index.

   Example:
   ```
   // declaration of array
   ```

```
int[] numbers = new int[5];

// assigning values to it
numbers[0] = 1;
numbers[1] = 3;
numbers[2] = 5;
numbers[3] = 7;
numbers[4] = 9;

// printing the array
System.out.println(Arrays.toString(numbers));
```

7. Write a program on a 2D array.
   Answer: Here is a program on 2D array:

```
import java.util.Scanner;

public class Main {
	public static void main(String[] args) {
		Scanner input = new Scanner(System.in);

		 System.out.println("Enter the number of rows: ");
		 int rows = input.nextInt();
		 System.out.println("Enter the number of columns: ");
		int columns = input.nextInt();

		int[][] matrix = new int[rows][columns];

		System.out.println("Enter the elements of the matrix: ");
		for (int i = 0; i < rows; i++) {
			for (int j = 0; j < columns; j++) {
				System.out.print("matrix[" + i + "][" + j + "] : ");
				 matrix[i][j] = input.nextInt();
			}
		 }

		System.out.println("The matrix is: ");
		for (int i = 0; i < rows; i++) {
			for (int j = 0; j < columns; j++) {
				 System.out.print(matrix[i][j] + " ");
			 }
			 System.out.println();
		 }
```

```
        }
    }
```