	Page NV.
5.(9)	(20 Arrays)
>	A 2D Array is essentially an array of arrays. It stores elements in a table-like structure with rows and columns.
1.)	Syntax:
(1)	
	int C JCA matrix = { £1,233, oth index
("	1 Dynamic Initalization: 3 rows 4 columns
	int[][] matrix = new [3] [4];
	OSSIGN > MOTHIX COJCIJ = 99 '
	Soon -
(2) Accessing Elements
	Use matrix (i) [i]
	Syntax: 2DAVIOU Index 1'S second index.
	int val = matrix [1] [2]; luntoe in 2nd now) 3rd Column
	arom,



	Date
12)	Taput and D.
-12	Input and Dutput of 20 Arrays
-	20 Mays
3	We use nested loops. Dutan 1 0
	we use nested loops. Duter loop for rows, inner loop for
	The state of the s
11)	Input Syntax (using Scanner):
	(Sing Scanner):
	11 Acr 1,000 1200 1
	11 Ask user injur for rows & columns. [. leggth lims rows
	1003 - 5- INE ONE 5 1
	(Cotumns
	11 Decrare and initivize the 2D array rows . int C J C Imatrix = New int Crows] [cols];
	int C J C) matrix = new int Crows] [cois]:
	11 Take injur. for each element.
	for (int i = 0; i < rows; itt) { } calumns for (int j = 0; j < cols; j tt) { } matrix (i)(i) = sc.nextInt ();
	forline in a iknows ittle - columns
	for line is n' i core : itt) of
	matrix Ci]Cj] = Sc.nextInt ();
	2
	2
1	Duttot Syntax
	Output Syntax
~	Por (int i = 0', izrows; itt) {
-	0 () 00 () ((0)) ()
-	System. out-print (matrix Ci] Cj] ;
-	System. Butty 1110
1	System.out.println();
1	8 System. out
	15

	Page rec
4.	Ocasione Turas 21 Amays
1	Occasions Traversing 2D Arrays
(i)	Row-wise Traversal (Nested Loops)
The second second second	Row-wise traversal means you visit all alements in a row
	before moving to next row.
	The state of the s
	Example :
	Public Class Main &
	PS UM (String C] angs) &
	(int C] C] moms = & {2,2,3}, {4,5,6},
	{Y,5,6},
-	27.8.93 3
-/-	System. Out-printin ("Row-wise Froversal"):
	for (int i = 0; iz matrix. length; itt) { // outer loop: iterate over rows. for (int j = 0; j z matrix Ci]. length; jtt) { // inner loop: iterate over columns.
	System. Out print and matrix (i) (i);
	1 2 Color Co
	System, out. println (); Il move to next rine each row
1/	(3
11	
(11)	Column - wise Traversal E
1	visits all elements in a column before moving to the next column.
1	
1	System. out-print In (" column - wise Traversal"):
1	For (int j=0; j z matrix (o). length; jtt) [// outer loop > corums. Por (int i=0; i z matrix. length; itt) [// inner loop > rows
	Il same after Mis.