**Department of Electrical and Computer Engineering, NSU**

**CSE 115L: Fundamentals of Computer Programming (Section 4)**

**Lab 11 (Array), Faculty: Rsl**

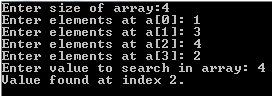
**Two dimensional Array**

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| **Basic Syntax** | **Initialization of 2D array** |
| DataType arrayName [ row ][ column ];  Example:  int a[3][4];    Here starting row=0 and ending row index=3-1=2  And starting column=0 and ending column index=4-1=3 | int a[3][4] = {  {0, 1, 2, 3} , /\* initializers for row indexed by 0 \*/  {4, 5, 6, 7} , /\* initializers for row indexed by 1 \*/  {8, 9, 10, 11} /\* initializers for row indexed by 2 \*/  };  The above statement is same as:  int a[3][4] = {0,1,2,3,4,5,6,7,8,9,10,11};  Memory Representation of the above example:    To access value 1 we write a[0][1];  To access value 11 we write a[2 ][3 ] |

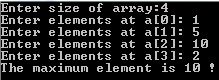
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| **Example 1: Finding out whether all the elements of an array are even or not** | **Example: 2 taking input into 2D array and printing it** |
| #include<stdio.h>  int main()  {  int size;  printf("Enter the length of the array: ");  scanf("%d",&size);  int i, arr[size];  for(i=0; i<size; i++)  {  printf("Enter elements arr[%d]:",i);  scanf("%d",&arr[i]);  }  int check=0;  for(i=0; i<size; i++)  {  if(arr[i]%2==0)  {  check++;  }  }  if(check==size)  printf("All elements are even!\n");  else if(check==0)  printf("No elements are even!\n");  else  printf("Some elements are even!\n");  return 0;  } | #include<stdio.h>  int main()  {  int row,col;  printf("Enter no. of rows:");  scanf("%d",&row);  printf("Enter no. of columns:");  scanf("%d",&col);  int arr[row][col];  int i,j;  for(i=0; i<row ; i++)  {  for(j=0; j<col ; j++)  {  printf("Enter value at arr[%d][%d]=",i,j);  scanf("%d",&arr[i][j]);  }  }  printf("The array elements are: \n");  for(i=0; i<row; i++)  {  for(j=0 ; j<col; j++)  {  printf("a[%d][%d]:%d \n",i,j,arr[i][j]);  }  }  return 0;  } |

**Task (10 marks)**

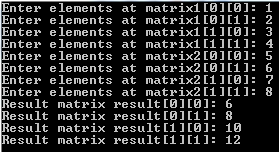
1. Create an array of integer of size given by the user and fill it with values. Your task is to write a search function void search(int b[],int size,int value) which will be used to search a particular value given by the user from the array

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2. Create an array of integer of size given by the user and fill it with values. Find the maximum elements from the array.



3. Create two 2 X 2 integer array and fill it with values. Your task is to perform matrix addition and store the result in a 2 X 2 matrix and print it.



[ HINT: result[i][j] = matrix1[i][j]+matrix2[i][j] use this to perform addition]