GEDIZUNIVERSITY
izmir

Faculty of Engineering and Architecture

Computer Engineering Department

COM 101 – INTRODUCTION TO PROGRAMMING

LAB Assignment #8

Academic Year : Fall 2015-2016
Date : November 08, 2015
Course Instructor : Inst. Gökhan Akyol
Course Assistants : Res.Asst. Arzum Karataş & Res. Asst. Feyza Galip

A- Examples

1- Linear Search in an array:

Write a C function that searches an integer array for a key. If it founds the key in the array searched, it returns the position of the key, otherwise it returns -1.

B- Exercise

Note that when you doing exercise questions, you are expected to use good programming practices you learn up to that time.

1- Subarray of an Array :

Write a C function that prints sub array of an array passed as parameter and it takes initial index and final index of substring as parameter as well.

Example : Let's assume that your array A ={A,r,r,a,y,E,x,a,m,p,l,e}, initial index is 3 and final index is 6. Then the function prints { a,y,E,x }

2- Remove Duplicate Elements:

Write a C function that removes the duplicate elements of an array passed as parameter.

Example : Let's assume that your array B = {1,1,1,2,1,1,3,3,1,1,6,4,6,1}. Then the function prints {1,2,3,6,4}

3- Matrix Addition:

Two matrices must have an equal number of rows and columns to be added, A and B. The sum of A and B, denoted A + B, is computed by adding corresponding elements of A and B as in the seen following figure.

$$\mathbf{A}+\mathbf{B} = \begin{bmatrix} a_{11} & a_{12} & \cdots & a_{1n} \\ a_{21} & a_{22} & \cdots & a_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ a_{m1} & a_{m2} & \cdots & a_{mn} \end{bmatrix} + \begin{bmatrix} b_{11} & b_{12} & \cdots & b_{1n} \\ b_{21} & b_{22} & \cdots & b_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ b_{m1} & b_{m2} & \cdots & b_{mn} \end{bmatrix}$$

$$= \begin{bmatrix} a_{11}+b_{11} & a_{12}+b_{12} & \cdots & a_{1n}+b_{1n} \\ a_{21}+b_{21} & a_{22}+b_{22} & \cdots & a_{2n}+b_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ a_{m1}+b_{m1} & a_{m2}+b_{m2} & \cdots & a_{mn}+b_{mn} \end{bmatrix}$$

Example :

$$\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} + \begin{bmatrix} 5 & 6 \\ 7 & 8 \end{bmatrix} = \begin{bmatrix} 1+5 & 2+6 \\ 3+7 & 4+8 \end{bmatrix} = \begin{bmatrix} 6 & 8 \\ 10 & 12 \end{bmatrix}$$

Write a C function that makes a matrix addition . It takes two matrices as parameter and prints result matrix .