DOKUZ EYLUL UNIVERSITY
Faculty of Engineering
Electrical and Electronics Engineering

Dokuz Eylül Üniversitesi, Mühendislik Fakültesi,
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EED 1005 Introduction to Programming — Laboratory #9

Student Name:	Student ID:

Objectives

- To be familiar with control and repetition in arrays.

Preliminary Work:

Preliminary work tasks are required to be done before loboratory sessions and need to be uploaded before preliminary work deadlines.

Task 1: Define an array by using all possible defining methods. Assume that the array's elements are 17,21,3,0,5.

Task 2: Find outputs of the programs given below.

a)
```
int main()
{
   int a[5] = {5, 1, 15, 20, 25};
   int i, j, m;
   i = ++a[1];
   j = a[1]++;
   m = a[i++];
   printf("%d, %d, %d", i, j, m);
   return 0;
}
```

b) #include<stdio.h>

```
int main()
{
   int arr[5], i=0;
   while(i<5)
   arr[i]=++i;
   for(i=0; i<5; i++)
   printf("%d, ", arr[i]);
   return 0;
}
```

Laboratory Study:

Laboratory study tasks are done during laboratory sessions, however it is strongly recommended that students should study the tasks before the laboratory hours. The laboratory reports need to be uploaded before the laboratory study deadlines.

Task 1 : Write a main function that asks the user to input 10 numbers and stores them in an array. Use another function to replace the negative elements of the array by absolute value of the negative values.

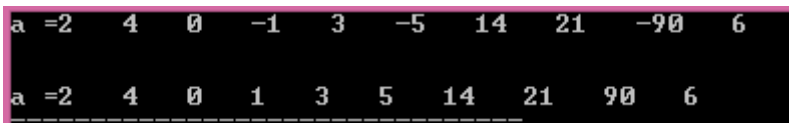

Figure 1: Output of Laboratory Study Task 1

Task 2 : Define 2 arrays:

x[5]={2,4,6,8,10};

y[5]={6,12,18,24,30};

Create a function which finds the covariance of these arrays.

Covariance equation is :

$$COV(x,y) = \frac{\sum_{i=1}^{n}(x_i - \bar{x})(y_i - \bar{y})}{n-1}$$

Where: $x_i = x_1, x_2, x_3, x_4, x_5$ represents the grades for each student.

n= number of terms

$x_i = x_1, x_2, x_3, x_4, x_5$

$y_i = y_1, y_2, y_3, y_4, y_5$

$\bar{x}$= average (add up all the numbers, then divide by how many numbers there are) of the elements of x array

$\bar{y}$= average (add up all the numbers, then divide by how many numbers there are) of the elements of y array

```
Covariance= 30.000000
--------------------------------
```

Figure 2: Output of Laboratory study Task 2