

ASSIGNMENT # 1

DATA STRUCTURES AND ALGORITHM

Due Date: 19-11-2021

Marks: 10

Submission format :

1. Take screen shot of code & output of google colab
2. Do not copy paste code on MS word just paste screenshots
3. Assignment will be submitted in hard format.
4. Copied assignments and late submissions will be marked zero.

Question 01:

Write a Python program to append a new item to the end of the array without using built-in functions.

Sample Output:

Original array: array('i', [1, 3, 5, 7, 9])

Append 11 at the end of the array:

New array: array('i', [1, 3, 5, 7, 9, 11])

Question 02:

Write a Python program to reverse the order of the items in the array without using built-in functions.

Sample Output

Original array: array('i', [1, 3, 5, 3, 7, 1, 9, 3])

Reverse the order of the items:

array('i', [3, 9, 1, 7, 3, 5, 3, 1])

Question 03:

Write a Python program which takes two digits m (row) and n (column) as input and generates a two-dimensional array.

The element value in the i-th row and j-th column of the array should be $i*j$.

Note:

$i = 0, 1, \dots, m-1$

$j = 0, 1, \dots, n-1$.

Display the two-dimensional array in the output.

Question 04:

Array	[0]	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Data	12	18	33	42	55	67	72	93

The following is our sorted array and let us assume that we need to search the location of value 72 using binary search.

Write python code to get the position of value 72 using binary search.

Question 05:

Write a Python program to remove all duplicate elements from a given array and returns a new array.

Sample Output:

Original array: 1 3 5 1 3 7 9

After removing duplicate elements from the said array: 1 3 5 7 9

Original array: 2 4 2 6 4 8

After removing duplicate elements from the said array: 2 4 6 8

