Day: 6

C Assignments: Loops, Arrays

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| **S.No** | **Assignment** | **Test Cases** | |
|  |  | **Input** | **Output** |
| 1 | Write a Program to find if a given number is Armstrong number.  Armstrong number has property:  153 = 13 + 53 + 33 | 153 | 153 is Armstrong number |
| 371 | 371 is Armstrong number |
| 100 | 100 is NOT Armstrong number |
| 1 | 1 is NOT Armstrong number |
| 2 | Write a program to find whether given number is palindrome or not.  Palindrome number is a number which is same as its reverse | 121 | 121 is palindrome number |
| 12 | 12 is NOT palindrome number |
| 11 | 11 is palindrome number |
| 4 | 1 is palindrome number |
| 3 | Write a program in C to find whether a number n is prime number or not | 101 | 101 is a prime number |
| 19 | 19 is a prime number |
| 32 | 32 is NOT a prime number |
| 93 | 93 is NOT a prime number |
| 4 | Write a program in C to find all prime numbers from 1 to n | 18 | 2, 3, 5, 7, 11, 13, 17 |
| 10 | 2, 3, 5, 7 |
| 5 |  |  |  |
| 6 |  |  |  |
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| 8 |  | | |
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| --- | --- | --- | --- |
| S.NO | Assignment | Test cases | |
|  |  | INPUT | OUTPUT |
| 10 | Write a C Program to find Largest Element of an Integer Array.  Here the number of elements in the array ‘n’ and the elements of the array is read from the test data.  Use the printf statement given below to print the largest element. printf("Largest element = %d", largest); | 4  -400  -800  -700  -50 | Largest element = -50 |
| 7  60  70  200  12  40  -90  60 | Largest element = 200 |
| 5  10  50  40  30  20 | Largest element = 50 |
| 7  100  50  60  70  90  30  40 | Largest element = 100 |
|  |  |  |  |
| 11 | Write a C Program to print the array elements in reverse order (Not reverse sorted order. Just the last element will become first element, second last element will become second element and so on)  Here the size of the array, ‘n’ and the array elements is accepted from the test case data. The last part i.e. printing the array is also written.  You have to complete the program so that it prints in the reverse order. | 5  10  20  30  40  50 | 50  40  30  20  10 |
| 6  41  42  43  44  45  46 | 46  45  44  43  42  41 |
| 5  1  2  3  4  5 | 5  4  3  2  1 |
| 4  45  65  35  25 | 25  35  65  45 |
| 12 | Write a C program to read Two One Dimensional Arrays of same data type (integer type) and merge them into another One Dimensional Array of same type. | 3  15  45  25  3  60  70  80 | 15  45  25  60  70  80 |
| 4  90  80  10  30  2  25  75 | 90  80  10  30  25  75 |
| 3  10  20  30  4  40  50  60  70 | 10  20  30  40  50  60  70 |
| 4  9  7  6  5  2  30  50 | 9  7  6  5  30  50 |
| 13 | Write a C Program to delete duplicate elements from an array of integers. | 6  50  6  7  7  2  7 | 50  6  7  2 |
| 7  2  4  2  6  4  2  4 | 2  4  6 |
| 5  50  60  30  20  30 | 50  60  30  20 |
| 6  40  20  50  30  20  10 | 40  20  50  30  10 |
| 14 | C Program to delete an element from a specified location of an Array starting from array [0] as the 1st position, array[1] as second position and so on. | 4  50  60  70  80  1 | 60  70  80 |
| 5  9  10  11  1  20  5 | 9  10  11  1 |
| 5  10  20  30  40  50  4 | 10  20  30  50 |
| 6  600  500  400  300  300  200  4 | 600  500  400  300  200 |
| 15 | **Write a C program to find the sum of all elements of each row of a matrix.**     Example: For a matrix  4 5 6                                          6 7 3                                          1 2 3    The output will be    15    16     6 | 3  2  4  4  5  5  6  6 | 8  10  12 |
| 3  4  1  -1  2  -2  5  -5  7  -7  8  -8  6  -6 | 0  0  0 |
| 3  3  1  1  1  2  2  2  3  3  3 | 3  6  9 |
| 2  3  1  2  3  4  5  6 | 6  15 |
| 16 | Write a C program to find subtraction of two matrices i.e. matrix\_A -matrix\_B=matrix\_C.   If the given martix are  2 3 5 1 5 2  4 5 6 2 3 4  6 5 7 3 3 4  Output will be:  1 -2  3  2 2 2  3 2 3  The elements of the output matrix are separated by one blank space | 3  4  5  6  7  8  3  2  5  6  1  3  9  5  2  9  3  1  2  5  1  2  2  3  4  1 | 3 -3 4 7  1 -3 4 4  -1 0 5 4 |
| 3  3  2  3  5  4  5  6  6  5  7  1  5  2  2  3  4  3  3  4 | 1 -2 3  2 2 2  3 2 3 |
| 17 | **Write a C program to print lower triangle of a square matrix.**  For example the output of a given matrix  2 3 4     will be      2 0 0  5 6 7                      5 6 0  4 5 6                       4 5 6 | 4  1  1  1  1  2  2  2  2  3  3  3  3  4  4  4  4 | 1 0 0 0  2 2 0 0  3 3 3 0  4 4 4 4 |
| 3  1  2  3  1  2  3  1  2  3 | 1 0 0  1 2 0  1 2 3 |