

CSE 115 – Programming Language I
Fall 2020
Mid 2, Mark – 35, Section 6

Each question bears 5 points. Answer any 7 out of 8 questions.

1. What will be the output of the following recursive function, when you call that function with n=4 i.e. fun (4)? Show your steps to find the answer.

```
void fun (int n) {  
    If (n <= 0)  
        return 0 ;  
    printf ("%d, ", --n) ;  
    fun (--n)  
    printf ("%d", --n) ;  
}
```

2. Create a C Program calculate sum of all elements of an array using pointers as arguments. The array size and elements of the array will be given by user as input. Make a function called sum() which will find calculate the summation. The argument of the function should be a pointer

Test Case:-

Size of array : 5

Elements of the array: 1 2 4 6 7

Output: Sum of the elements of the array is 20

3. Create a C Program to delete a specified integer from an array. The array size and elements of the array will be given by user as input. The element which needs to be deleted will also be given by the user. Make a function called deleteThis(), pass the user inputted number as argument. The function will find and delete that element and re-organize the array. If the element is not in the array show an error message.

Test Case:-

Size of array : 5

Elements of the array: 1 2 4 6 7

Number to be deleted: 4

Output: After deletion, the new array is 1 2 6 7

4. Create a C program to check if a string is palindrome or not, using recursion. The string will be taken as user input

Test Case:-

Please Input the string: Madam

Output: It is palindrome

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5. Write a C program to capitalize the first letter of every word. Write a function for that called capitalize (char *str) which will do the job.

Test Case:-

Input string: Do you love programming?

Output: Do You Love Programming?

6. Write a C program to print the source code of the program in console. You will have to use FILE to do so.
7. Implement int mystrcmp (char *str1, char *str2) function that will exactly return the values of standard c function strcmp (s1, s2). However, you cannot use strcmp function inside mystrcmp function. Use that function to compare two strings in your main function to compare two strings given by user input. If string1 is greater than string 2 then print "String1 is greater than string 2", if string1 is less than string2 then print "String1 is less than string 2" else print "Both strings are equal".

Test Case:-

String 1: hello

String 2: dear

Result: String1 is greater than string2

8. Write a C program to input numbers from a file and write the even, odd numbers to separate files. These separate files should be named according to their content.

For example, input.txt file contains the following numbers

10 23 34 56 51 90

Then even.txt file will contain

10 34 56 90

And odd.txt file will contain

23 51