North South University

Department of Electrical and Computer Engineering

CSE 225L: Data Structures

Assignment - 01

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1. Write a recursive function that returns the n^{th} Fibonacci number from the Fibonacci series.
2. Write a recursive function that prints a given number in inverse order.
3. Write a recursive function that convers a binary number into a decimal number.
4. Write a recursive function that convers a decimal number into binary number.
5. Write a recursive function that convers a decimal number into hexa-decimal number.
6. Write a recursive function that returns the value after multiplication between two numbers without using the multiplication (*) operator.
7. Write recursive function that returns the length of a given array.
8. Write a recursive function that returns the invers of a given string.
9. Write a recursive function that checks if a string is palindrome or not.
10. Write a recursive function that returns the sum of the following series.

    1 + 1/2 + 1/3 + 1/4 + …….. + 1/n

Sample input and output:

Q.	Input	Output
01	**6**	**8**
02	**123**	**321**
03	**110**	**6**
04	**7**	**111**
05	**13**	**D**
06	**3, 5**	**15**
07	**A = {1,2,3,4,5}**	**5**
08	**hello**	**olleh**
09	**racecar**	**Palindrome**
10	**n = 3**	**1.83333**