WEEK 3 ASSIGNMENT

FUNCTIONS, ARRAYS, STRINGS

WAP= Write a program

Q1. WAP to:

1. Print the Nth Fibonacci number
2. Calculate the factorial of a number
3. Performs linear search on 1-D array

Q2. WAP to find the smallest and largest number in an array

Q3. WAP to find the maximum subarray sum. (Hint: Kadane’s algorithm)

Q4. Given an array A[] and a number x, check for pair in A[] with sum as x, determines whether or not there exist two elements in array A whose sum is exactly x.

Q5. WAP to check if a string is a palindrome or not

Q6. WAP to find the character with the maximum frequency in a string

Q7. Take as input S, a string. Write a function that does basic string compression. Print the value returned. E.g. for input “aaabbccds” print out a3b2c2d1s1.

Q8. WAP to print a 2D array column-wise.

Eg: if matrix is {1,2,3,4,

5,6,7,8,

9,10,11,12}

Print: 1 5 9 2 6 10 3 7 11 4 8 12

Q9. Given an n x m matrix, where every row and column is sorted in increasing order, and a number x. Find if element x is present in the matrix or not. (Hint: Staircase Search, similar to binary search)