



Indian Institute of Technology, Guwahati
CS348 - Implementation of Programming Languages Lab
ASSIGNMENT 1[SET B]

1. A simple graph is represented as an adjacency matrix. Write a program to find out whether the graph is connected or not.
2. A simple graph is represented as an adjacency matrix. Write a program to check if there is a cycle present in the graph.
3. Write a program that finds non-printable characters from text file and replace those characters with '*' symbol. Also, print resultant file on the output console.
4. Write a program that replaces every alphabet (case sensitive) of a given input string with its next (using roundoff) ASCII alphabet character and prints the resultant string on the output console.

For example, replace ASCII value 127 with 32 and 32 with 33 and so on.

Ex:

wxyz -> xyzA

5. Write a program to multiply the given two matrices ($N \times M$, $M \times N$) and print the resultant matrix. All inputs must be taken from user.
6. Write a program to find the transpose of a ($N \times N$) matrix and print the resultant matrix. All inputs must be taken from user.
7. Write a program to find the inverse of a ($N \times N$) matrix and print the resultant matrix. All inputs must be taken from user.
8. Write a program to find the largest and smallest words in terms of the character count from a given document. Print the words and their lengths on the console.
9. Write a program to find the number of words, vowels and consonants from a given document.
10. Write a program which takes n floating point numbers from the user and writes into an array, and prints the k^{th} largest number using insertion sort. The values of n and k must be taken via user input.

11. Write a program which takes n floating point numbers from the user and writes into an array and prints the k^{th} largest number using selection sort. The values of n and k must be taken via user input.
12. Given an array of size n, take inputs from the user and add them to the array only if they satisfy the following conditions: it is a prime and it is a non-duplicate number. The program stops taking inputs when the array is full. Print the resultant array.

Best wishes