(1) Write a recursive function that accepts a file and prints the lines of that file in reverse order.

Sample Input/output:

Input file

India also known as the Republic of India. The name India is derived from Indus. India is home to two major language families. Indian cultural history spans more than 4,500 years.

Output file

Indian cultural history spans more than 4,500 years. India is home to two major language families. The name India is derived from Indus. India also known as the Republic of India.

(2) Consider a Binary Search Tree (BST) where the number of nodes in N and the height is h. Check whether this BST can be AVL tree or not.

Sample Input/output:

Enter the height of the BST: 7
Enter the number of nodes in BST: 53
Whether the BST is AVL: No

Enter the height of the BST: 9
Enter the number of nodes in BST: 146
Whether the BST is AVL: Yes

Enter the height of the BST: 3
Enter the number of nodes in BST: 8
Whether the BST is AVL: Yes

Enter the height of the BST: 6
Enter the number of nodes in BST: 40
Whether the BST is AVL: Yes

(3) Write a recursive function to check whether a given string is Palindrome or not.
(4) Write a recursive function to convert an integer into its corresponding binary equivalent.