Assignment -1

**Q1 [CO2].** Write a program in C/C++ to perform deletion in a Binary search tree. Include all the cases to delete a leaf node, a node with a single child and node with two children. The code must include the code for creation of BST, traversal and traversal after deleting the elements.

**Q2 [CO2].** Write a program in C/C++ to perform deletion in an AVL tree. Include all the cases to delete a leaf node, a node with a single child and node with two children. The code must include functions to get height of the tree, balance factor and all rotations. The program must include the code for creation of AVL tree, traversal and traversal after deleting the elements.

**Q3 [CO2].**

1. Write a program to implement a max-priority queue using heap
2. Write a program to implement a min-priority queue using heap

**Implement the following:**

void swap( int \*a, int \*b )

int get\_right\_child(int A[], int index)

int get\_left\_child(int A[], int index)

int get\_parent(int A[], int index)

void max\_heapify(int A[], int index)

void build\_max\_heap(int A[])

int maximum(int A[])

int extract\_max(int A[])

void increase\_key(int A[], int index, int key)

void decrease\_key(int A[], int index, int key)

void insert(int A[], int key)

void print\_heap(int A[])