PSG COLLEGE OF TECHNOLOGY

DEPARTMENT OF APPLIED MATHEMATICS AND COMPUTATIONAL SCIENCES

M.Sc (SS) – Design and Analysis of Algorithms

Home work -2 (AVL and Splay Tree)

1. Construct an AVL tree with the following elements: Ant, bat, sat, cat, rat, fat, hat, mat, pat and perform the following operations on the constructed tree. Consider the operations are independent of one another
   (i) Insert hay
   (ii) Insert bay
   (iii) Insert day
   (iv) Insert say
   (v) Insert lay
   (vi) Delete fat
   (vii) Delete ant
   (viii) Delete bat
   (ix) Delete mat
   (x) Delete day

2. From the AVL tree constructed in question 1 using the elements Ant, bat, sat, cat, rat, fat, hat, mat, pat, perform the following operations in sequence:
   (i) Insert may
   (ii) Insert pay
   (iii) Insert ray
   (iv) Delete bat
   (v) Delete rat
   (vi) Delete fat
   (vii) Delete hat

3. Construct a Splay tree with the following elements: Ant, sat, cat, rat, hat, mat, pat. Perform the following operations on the constructed tree considering the operations are independent of one another.
   (i) Insert day
   (ii) Insert hay
   (iii) Insert fat
   (iv) Delete ant
   (v) Delete fat

4. Perform the operations in question 3 sequentially on the tree constructed using the elements: Ant, sat, cat, rat, hat, mat, pat.