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|  | SVKM’s NMIMS  School of Technology Management & Engineering Navi Mumbai Campus |
| Department of Computer Engineering |

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| Subject: DSA | Roll No.: A176 |
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Aim: – Representation of Binary trees in memory and implementation of Binary Tree traversal algorithms.

# Code/Implementation: -

#include <stdio.h> #include <stdlib.h> struct node

{ int item; struct node\* left; struct node\* right;

}; void inorderTraversal(struct node\* root)

{

if (root == NULL) return; inorderTraversal(root->left); printf("%d ", root->item); inorderTraversal(root->right);

}

void preorderTraversal(struct node\* root)

{

if (root == NULL)

return;

printf("%d ", root->item); preorderTraversal(root->left); preorderTraversal(root->right);

} void postorderTraversal(struct node\* root)

{

if (root == NULL) return;

postorderTraversal(root->left); postorderTraversal(root->right); printf("%d ", root->item);

}

struct node\* createNode(value)

{

struct node\* newNode = malloc(sizeof(struct node)); newNode->item = value; newNode->left = NULL; newNode->right = NULL; return newNode;

}

struct node\* insertLeft(struct node\* root, int value)

{

root->left = createNode(value);

return root->left;

}

struct node\* insertRight(struct node\* root, int value)

{

root->right = createNode(value);

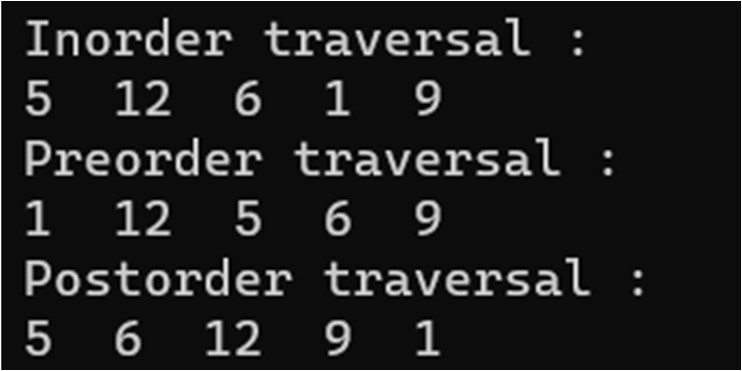
return root->right;

} int main() {

struct node\* root = createNode(1);

insertLeft(root, 12); insertRight(root, 9); insertLeft(root->left, 5); insertRight(root->left, 6); printf("Inorder traversal :\n"); inorderTraversal(root); printf("\nPreorder traversal :\n"); preorderTraversal(root); printf("\nPostorder traversal :\n"); postorderTraversal(root); }

# Output: -



Conclusion: - Represented Binary trees in memory and implemented Binary Tree traversal algorithms.

Outcome: - Represented Binary trees in memory and implemented Binary Tree traversal algorithms.