LAPORAN KELOMPOK STUKTUR DATA TUGAS 10

NAMA KELOMPOK

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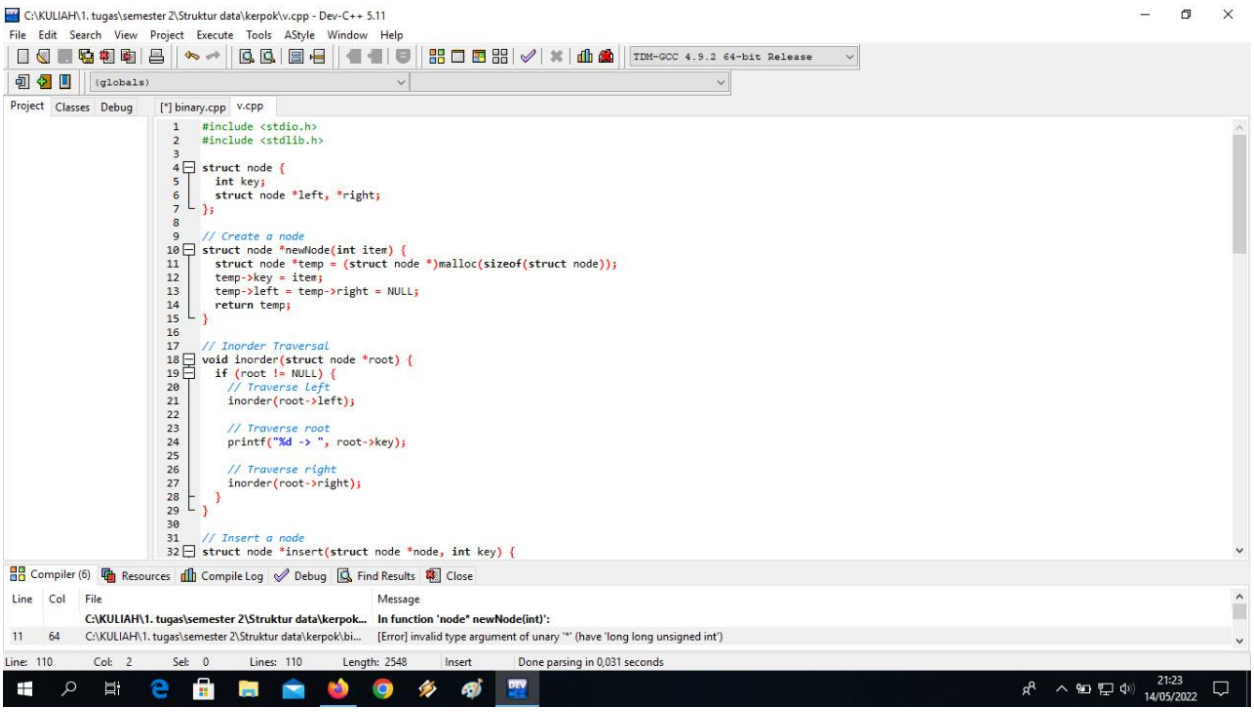
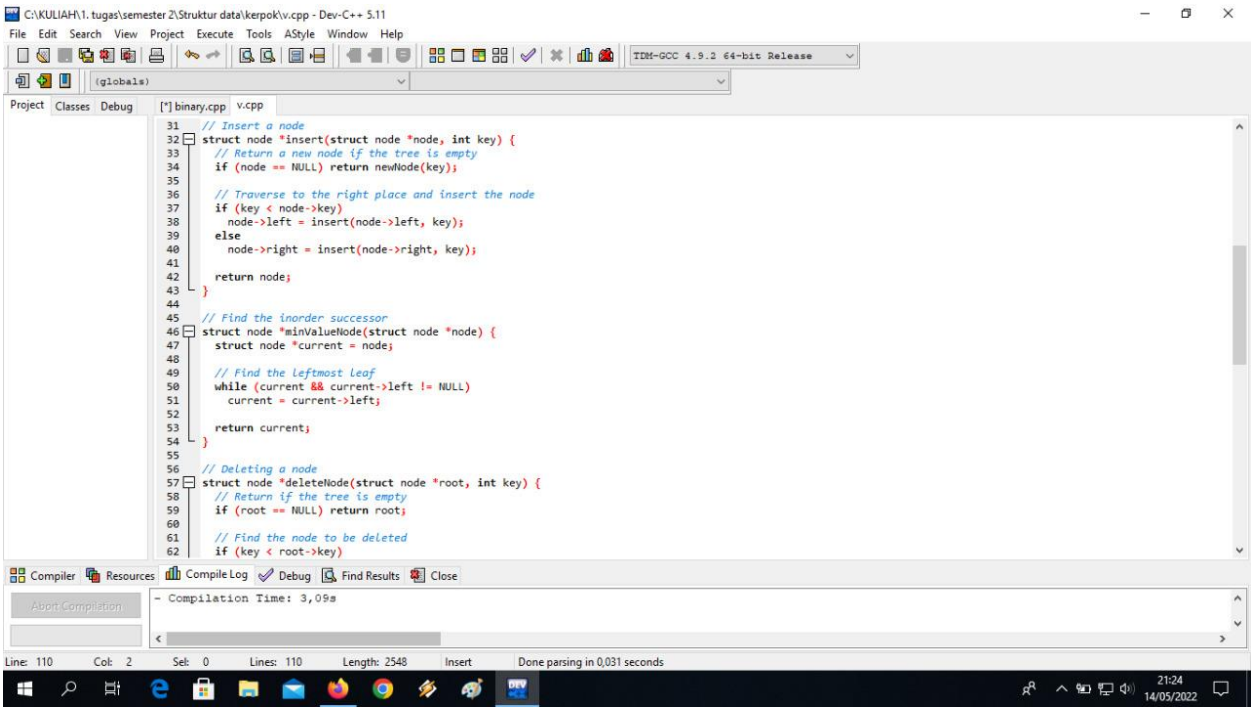
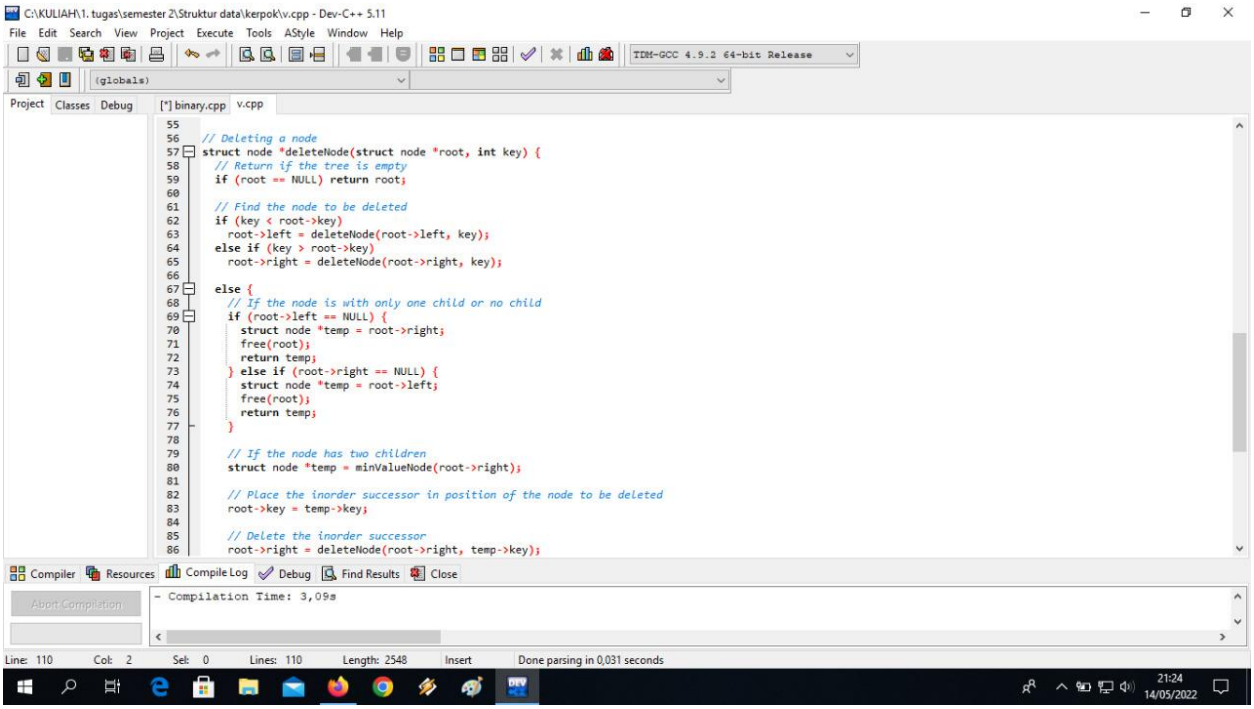
Laporan tugas stuktur data

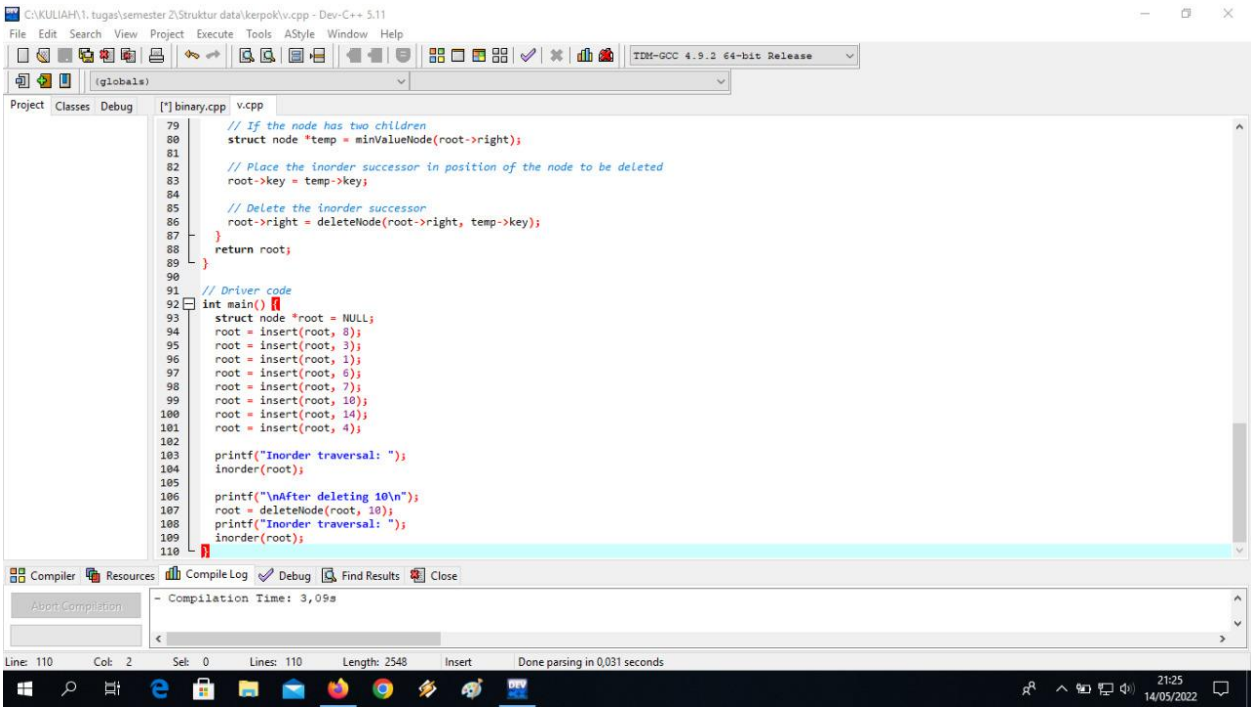


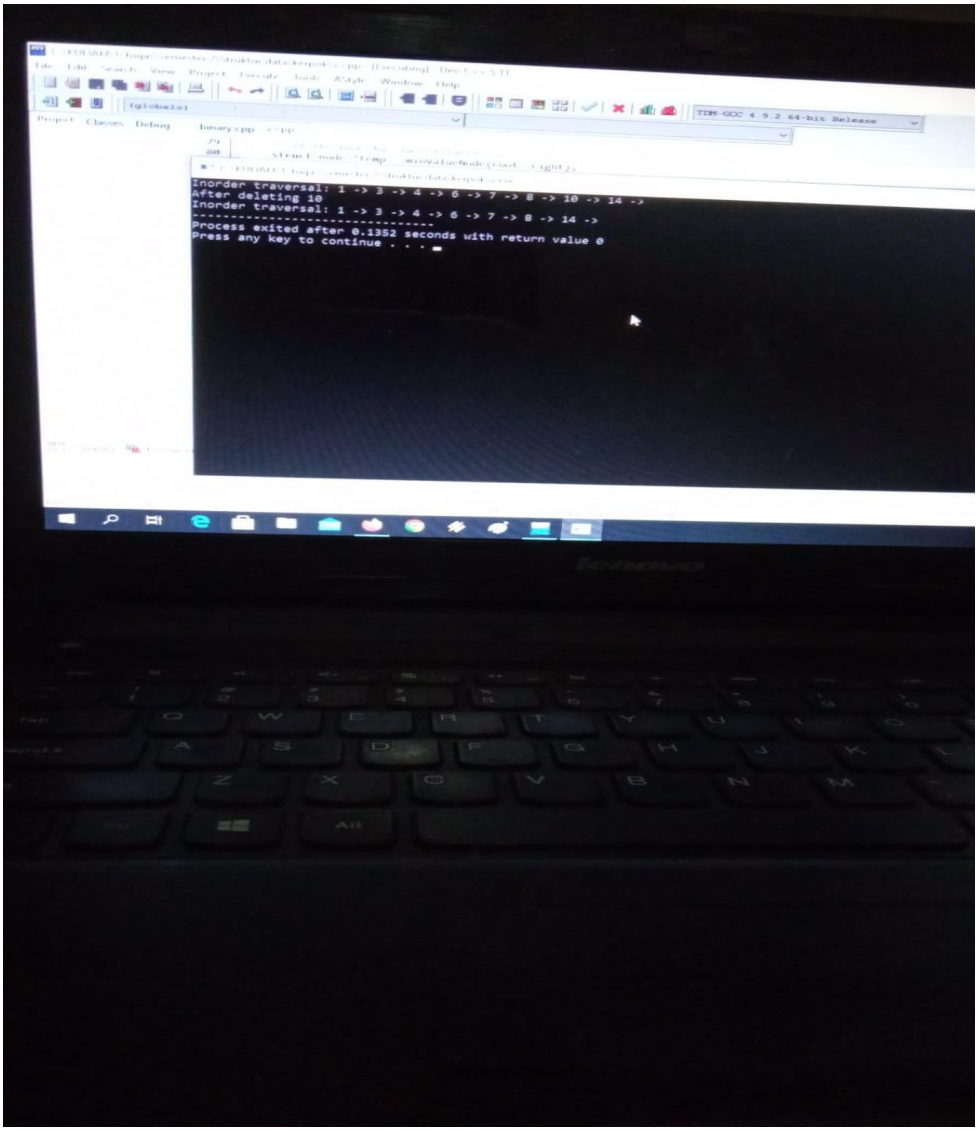


```
// Insert a node
struct node *insert(struct node *node, int key) {
  // Return a new node if the tree is empty
  if (node == NULL) return newNode(key);

  // Traverse to the right place and insert the node
  if (key < node->key)
    node->left = insert(node->left, key);
  else
    node->right = insert(node->right, key);

  return node;
}

// Find the inorder successor
struct node *minValueNode(struct node *node) {
  struct node *current = node;

  // Find the leftmost leaf
  while (current && current->left != NULL)
    current = current->left;

  return current;
}

// Deleting a node
struct node *deleteNode(struct node *root, int key) {
  // Return if the tree is empty
  if (root == NULL) return root;

  // Find the node to be deleted
  if (key < root->key)
```

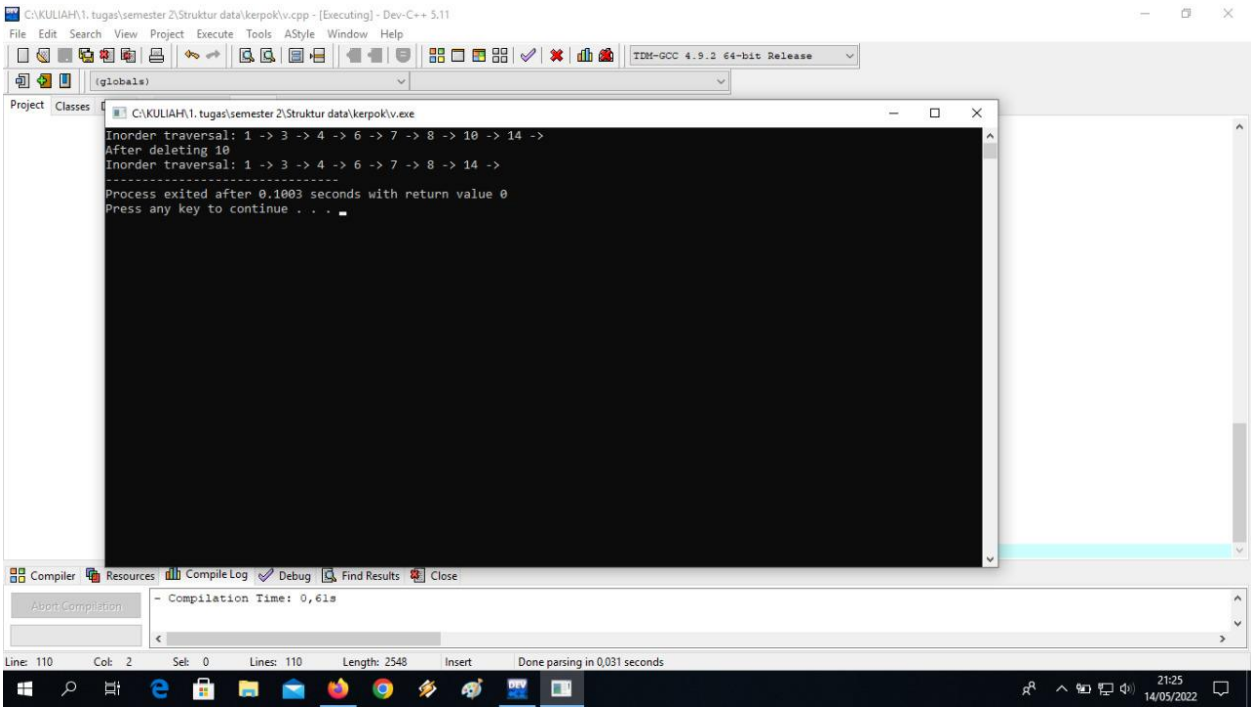


```
// Deleting a node
struct node *deleteNode(struct node *root, int key) {
  // Return if the tree is empty
  if (root == NULL) return root;

  // Find the node to be deleted
  if (key < root->key)
    root->left = deleteNode(root->left, key);
  else if (key > root->key)
    root->right = deleteNode(root->right, key);

  else {
    // If the node is with only one child or no child
    if (root->left == NULL) {
      struct node *temp = root->right;
      free(root);
      return temp;
    } else if (root->right == NULL) {
      struct node *temp = root->left;
      free(root);
      return temp;
    }

    // If the node has two children
    struct node *temp = minValueNode(root->right);

    // Place the inorder successor in position of the node to be deleted
    root->key = temp->key;

    // Delete the inorder successor
    root->right = deleteNode(root->right, temp->key);
```


C:\KULIAH\1. tugas\semester 2\Struktur data\kerpok\v.cpp - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
[*] binary.cpp v.cpp
79 // If the node has two children
80 struct node *temp = minValueNode(root->right);
81
82 // Place the inorder successor in position of the node to be deleted
83 root->key = temp->key;
84
85 // Delete the inorder successor
86 root->right = deleteNode(root->right, temp->key);
87 }
88 return root;
89 }
90
91 // Driver code
92 int main() {
93 struct node *root = NULL;
94 root = insert(root, 8);
95 root = insert(root, 3);
96 root = insert(root, 1);
97 root = insert(root, 6);
98 root = insert(root, 7);
99 root = insert(root, 10);
100 root = insert(root, 14);
101 root = insert(root, 4);
102
103 printf("Inorder traversal: ");
104 inorder(root);
105
106 printf("\nAfter deleting 10\n");
107 root = deleteNode(root, 10);
108 printf("Inorder traversal: ");
109 inorder(root);
110 }
Compiler Resources Compile Log Debug Find Results Close
Abort Compilation
- Compilation Time: 3,09s
Line: 110 Col: 2 Sel: 0 Lines: 110 Length: 2548 Insert Done parsing in 0,031 seconds
21:25
14/05/2022


Inorder traversal: 1 -> 3 -> 4 -> 6 -> 7 -> 8 -> 10 -> 14 ->
After deleting 10
Inorder traversal: 1 -> 3 -> 4 -> 6 -> 7 -> 8 -> 14 ->

Process exited after 0.1352 seconds with return value 0
Press any key to continue . . .


C:\KULIAH\1. tugas\semester 2\Struktur data\kerpok\v.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes
C:\KULIAH\1. tugas\semester 2\Struktur data\kerpok\v.exe
Inorder traversal: 1 -> 3 -> 4 -> 6 -> 7 -> 8 -> 10 -> 14 ->
After deleting 10
Inorder traversal: 1 -> 3 -> 4 -> 6 -> 7 -> 8 -> 14 ->

Process exited after 0.1003 seconds with return value 0
Press any key to continue . . .
Compiler Resources Compile Log Debug Find Results Close
Abort Compilation
- Compilation Time: 0,61s
Line: 110 Col: 2 Sel: 0 Lines: 110 Length: 2548 Insert Done parsing in 0,031 seconds
21:25
14/05/2022