

# INSTRUCTION

This is the window for searching a tree with three algorithms:

**Breadth-First Search (BFS), Depth-First Search (DFS), and Iterative Deepening Search (IDS).**

Tree Search Algorithms

Edge table:

Search table:

Add new edge (U,V):

U =

V =

Want to reset?

Choose the search algorithm

Depth limit for Iterative Deepening Search

Add

Reset

Breadth-First  
Depth-First  
Iterative deepening

Search

**STEP 1:** Adding an edge (**U,V**) into a tree by entering in the **U** and **V** text boxes and clicking button . Then, it will display the edge in the **Edge Table** text area as **U - - > V**

**Note:**

- The U node in the first edge is chosen to be the root of the tree
- You have the input both two vertices to add an edge
- All the inputs have to be integers

Add new edge (U,V):

U =

V =

Add

**STEP 2:** After adding edges to the graph, the next step is search. You can use either one of three search methods by clicking the option in the list box.

Choose the search algorithm	Breadth-First Depth-First Iterative deepening
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Then, click on the button  to search.

If you choose the **Iterative deepening**, you have to enter the depth limit for the search

Depth limit for Iterative Deepening Search	<input type="text"/>
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**Note:** If the tree is empty, the program cannot search

**STEP 3:** If you want to reset the program, click the button

**Examples:**

### 1) Search with BFS

Tree Search Algorithms

Edge table:

```
0 --> 1
1 --> 2
1 --> 3
2 --> 4
3 --> 5
```

Add new edge (U,V):

U =

V =

Want to reset? ☐

Choose the search algorithm

Depth limit for Iterative Deepening Search

Search table:

```
0 1 2 3 4 5
```

Add

Reset

Breadth-First  
Depth-First  
Iterative deepening

Search

## 2) Search with DFS

Tree Search Algorithms

Edge table:

0 --> 1  
1 --> 2  
1 --> 3  
2 --> 4  
3 --> 5

Search table:

0 1 2 4 3 5

Add new edge (U,V):

U =  
V =

Add  
Reset

Want to reset?

Choose the search algorithm

Breadth-First  
Depth-First  
Iterative deepening

Depth limit for Iterative Deepening Search

Search

### 3) Search with IDS (depth limit = 2)

Tree Search Algorithms

Edge table:

0 --> 1  
1 --> 2  
1 --> 3  
2 --> 4  
3 --> 5

Search table:

0 1 2 3

Add new edge (U,V):

U =  
V =

Add  
Reset

Want to reset?

Choose the search algorithm

Breadth-First  
Depth-First  
Iterative deepening

Depth limit for Iterative Deepening Search

2

Search