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C Online Compiler



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Run

```
1 #include <stdio.h>
2 #include <stdlib.h>
3 #include <string.h>
4 typedef struct TrieNode {
5     char* key;
6     struct TrieNode* children[26];
7     int is_end_of_word;
8 } TrieNode;
9 TrieNode* createTrieNode() {
10     TrieNode* node = (TrieNode*) malloc(sizeof(TrieNode));
11     node->key = NULL;
12     for (int i = 0; i < 26; i++) {
13         node->children[i] = NULL;
14     }
15     node->is_end_of_word = 0;
16     return node;
17 }
18 void insert(TrieNode* root, char* str) {
19     TrieNode* current = root;
20     for (int i = 0; i < strlen(str); i++) {
21         char c = str[i];
22         if (current->children[c - 'a'] == NULL) {
23             current->children[c - 'a'] = createTrieNode();
24         }
25         current = current->children[c - 'a'];
26     }
27     current->is_end_of_word = 1;
28 }
29 int search(TrieNode* root, char* str) {
30     TrieNode* current = root;
```

Output

Clear

```
/tmp/am8UhBs7Rf.o
Search for 'apple': 1
Search for 'grape': 0
Search for 'apple': 0
banana
orange

=== Code Execution Successful ===
```

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Run

```
1 #include <stdio.h>
2 #include <stdlib.h>
3
4 typedef struct Node {
5     int key;
6     struct Node* left;
7     struct Node* middle;
8     struct Node* right;
9 } Node;
10
11 Node* createNode(int key) {
12     Node* node = (Node*) malloc(sizeof(Node));
13     node->key = key;
14     node->left = NULL;
15     node->middle = NULL;
16     node->right = NULL;
17     return node;
18 }
19
20 void insert(Node** root, int key) {
21     if (*root == NULL) {
22         *root = createNode(key);
23     } else if (key < (*root)->key) {
24         insert(&((*root)->left), key);
25     } else if (key > (*root)->key && (*root)->middle == NULL) {
26         (*root)->middle = createNode(key);
27     } else {
28         insert(&((*root)->right), key);
29     }
30 }
```

Output

Clear

/tmp/33D8Cu5uyQ.o
5 2 3 8

=== Code Execution Successful ===

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Run

```
1 #include <stdio.h>
2 #include <stdlib.h>
3 typedef struct Node {
4     int keys[3];
5     struct Node* children[4];
6     int num_keys;
7 } Node;
8 Node* createNode() {
9     Node* node = (Node*) malloc(sizeof(Node));
10    node->num_keys = 0;
11    for (int i = 0; i < 4; i++) {
12        node->children[i] = NULL;
13    }
14    return node;
15 }
16 void insert(Node** root, int key) {
17     if (*root == NULL) {
18         *root = createNode();
19         (*root)->keys[0] = key;
20         (*root)->num_keys = 1;
21     } else {
22         Node* current = *root;
23         int i = 0;
24         while (i < current->num_keys && key > current->keys[i]) {
25             i++;
26         }
27         if (current->num_keys == 3) {
28             Node* newNode = createNode();
29             if (i == 0) {
30                 newNode->keys[0] = key;
```

Output

Clear

```
/tmp/c18ZSwz3Tv.o
2 3 9

=== Code Execution Successful ===
```

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Run

Output

Clear

```
1 #include <stdio.h>
2 #include <stdlib.h>
3 typedef struct Node {
4     int keys[4];
5     struct Node* children[5];
6     int num_keys;
7 } Node;
8 Node* createNode() {
9     Node* node = (Node*) malloc(sizeof(Node));
10    node->num_keys = 0;
11    for (int i = 0; i < 5; i++) {
12        node->children[i] = NULL;
13    }
14    return node;
15 }
16 void insert(Node** root, int key) {
17     if (*root == NULL) {
18         *root = createNode();
19         (*root)->keys[0] = key;
20         (*root)->num_keys = 1;
21     } else {
22         Node* current = *root;
23         int i = 0;
24         while (i < current->num_keys && key > current->keys[i]) {
25             i++;
26         }
27         if (current->num_keys == 4) {
28             Node* newNode = createNode();
29             if (i == 0) {
30                 newNode->keys[0] = key;
```

```
/tmp/Asdcy4ruLF.o
2 3 5 10

=== Code Execution Successful ===
```

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