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Reg_no – 2020BIT037

Assignment No 1 – write a program to create a linklist

```
// program for linklist
#include <bits/stdc++.h>
using namespace std;
struct Node {
  int data;
  Node* next;
};
struct Node* newNode(int data) {
  Node* node = new Node;
  node->data = data;
  node->next = NULL;
  return node;
}
void insertNewNode(Node** root, int data) {
```

```
  Node* node = newNode(data);
  Node* ptr;
  if (*root == NULL) {
    *root = node;
  }
  else {
    ptr = *root;
    while (ptr->next != NULL) {
      ptr = ptr->next;
    }
    ptr->next = node;
  }
}
void printLinkedList(Node* root) {
  while (root != NULL) {
    cout << root->data << " -> ";
    root = root->next;
  }
  cout << "NULL" << endl;
}
Node* createLinkedList(int arr[], int n) {
  Node *root = NULL;
  for (int i = 0; i < n; i++) {
```

```
    insertNewNode(&root, arr[i]);
  }
  return root;
}
int main() {
  int arr[] = { 1, 2, 3, 4, 5 }, n = 5;
  Node* root = createLinkedList(arr, n);
  printLinkedList(root);
  return 0;
}
```

```cpp
// program for linklist
#include <bits/stdc++.h>
using namespace std;
struct Node {
    int data;
    Node* next;
};
struct Node* newNode(int data) {
    Node* node = new Node;
    node->data = data;
    node->next = NULL;
    return node;
}
void insertNewNode(Node** root, int data) {
    Node* node = newNode(data);
    Node* ptr;
    if (*root == NULL) {
        *root = node;
    }
    else {
        ptr = *root;
        while (ptr->next != NULL) {
            ptr = ptr->next;
        }
        ptr->next = node;
    }
}
void printLinkedList(Node* root) {
    while (root != NULL) {
        cout << root->data << " -> ";
        root = root->next;
    }
    cout << "NULL" << endl;
}
Node* createLinkedList(int arr[], int n) {
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```cpp
}
void insertNewNode(Node** root, int data) {
    Node* node = newNode(data);
    Node* ptr;
    if (*root == NULL) {
        *root = node;
    }
    else {
        ptr = *root;
        while (ptr->next != NULL) {
            ptr = ptr->next;
        }
        ptr->next = node;
    }
}
void printLinkedList(Node* root) {
    while (root != NULL) {
        cout << root->data << " -> ";
        root = root->next;
    }
    cout << "NULL" << endl;
}
Node* createLinkedList(int arr[], int n) {
    Node *root = NULL;
    for (int i = 0; i < n; i++) {
        insertNewNode(&root, arr[i]);
    }
    return root;
}
int main() {
    int arr[] = { 1, 2, 3, 4, 5 }, n = 5;
    Node* root = createLinkedList(arr, n);
    printLinkedList(root);
    return 0;
}
```

```
/tmp/NuI6OQUO15.o
1 -> 2 -> 3 -> 4 -> 5 -> NULL
```