

```
1 #include <stdio.h>
2 #define MAX 20
3 struct Node {
4     int data;
5     struct Node* next;
6 };
7 struct Node pool[MAX];
8 int poolIndex = 0;
9 struct Node* createNode(int data) {
10     if (poolIndex >= MAX) return NULL;
11     pool[poolIndex].data = data;
12     pool[poolIndex].next = NULL;
13     return &pool[poolIndex++];
14 }
15 struct Node* createList(int arr[], int size) {
16     if (size == 0) return NULL;
17     struct Node* head = createNode(arr[0]);
18     struct Node* curr = head;
19     for (int i = 1; i < size; i++) {
20         curr->next = createNode(arr[i]);
21         curr = curr->next;
22     }
23     return head;
24 }
```

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25 struct Node* insertAtPos(struct Node* head, int p, int n) {
26     struct Node* newNode = createNode(p);
27     if (newNode == NULL) return head;
28     if (n == 1) {
29         newNode->next = head;
30         return newNode;
31     }
32     struct Node* temp = head;
33     for (int i = 1; i < n - 1 && temp != NULL; i++)
34         temp = temp->next;
35     newNode->next = temp->next;
36     temp->next = newNode;
37     return head;
38 }
39 void printList(struct Node* head) {
40     printf("[");
41     while (head) {
42         printf("%d", head->data);
43         if (head->next) printf(",");
44         head = head->next;
45     }
46     printf("]\n");
47 }
```

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48 int main() {
49     int arr1[] = {1, 3, 2, 3, 4, 5};
50     struct Node* head1 = createList(arr1, 6);
51     head1 = insertAtPos(head1, 3, 3);
52     printf("Output: ");
53     printList(head1);
54     int arr2[] = {1};
55     struct Node* head2 = createList(arr2, 1);
56     head2 = insertAtPos(head2, 0, 1);
57     printf("Output: ");
58     printList(head2);
59     int arr3[] = {1, 2};
60     struct Node* head3 = createList(arr3, 2);
61     head3 = insertAtPos(head3, 3, 3);
62     printf("Output: ");
63     printList(head3);
64     return 0;
65 }
```

Output: [1,3,3,2,3,4,5]

Output: [0,1]

Output: [1,2,3]