

2) WAP to insert item in middle of the linked list.

```
#include <stdio.h>
#include <stdlib.h>
```

```
Struct Node {
    int data;
    Struct Node * next;
};
```

```
Void insert_middle(Struct Node * head, int position, int value) {
    Struct Node * newNode = (Struct Node *) malloc(sizeof(Struct Node));
}
```

```
newNode->data = value;
```

```
Struct Node * temp = head;
```

```
for (int i=1; i<position && temp != NULL; i++) {
    temp = temp->next;
}
```

```
if (temp == NULL) {
```

```
    printf ("Position out of Range ! \n");
    return;
}
```

```
int main() {
```

```
Struct Node * head = (Struct Node *) malloc(sizeof(Struct Node));
Struct Node * second = (Struct Node *) malloc(sizeof(Struct Node));
Struct Node * third = (Struct Node *) malloc(sizeof(Struct Node));
```

Remarks:

Teacher's Signature _____

head → data = 10;
Second → data = 20;
Third → data = 30;

head → next = Second;
Second → next = Third;
Third → next = NULL;
insert_middle(head, 2, 25);
struct Node * temp = head;
printf("Updated linked list : ");
while (temp != NULL) {
 printf(" : d → ", temp → data);
 Temp = Temp → next;

}

printf("NULL\n");
return 0;

}

A screenshot of a computer monitor displaying a code editor window. The window title is "C PROGRAMMING PROJECT.c". The code in the editor is as follows:

```
9 void insert_middle(struct Node * head, int position, int value) {
10     struct Node * temp = head;
11
12     for (int i = 1; i < position && temp != NULL; i++) {
13         temp = temp->next;
14     }
15
16     if (temp == NULL) {
17         printf("Position out of range!\n");
18         return;
19     }
20
21     newNode->next = temp->next;
22     temp->next = newNode;
23
24 }
25
26
27 int main() {
28     struct Node * head = (struct Node *)malloc(sizeof(struct Node));
29     struct Node * second = (struct Node *)malloc(sizeof(struct Node));
30     struct Node * third = (struct Node *)malloc(sizeof(struct Node));
31
32     head->data = 10;
33     second->data = 20;
34     third->data = 30;
35
36     head->next = second;
37     second->next = third;
38     third->next = NULL;
39
40     insert_middle(head, 2, 25);
41
42     struct Node * temp = head;
43     printf("Updated Linked List : ");
44     while (temp != NULL) {
45         printf("%d -> ", temp->data);
46         temp = temp->next;
47     }
48     printf("NULL\n");
49 }
```

The terminal tab at the bottom shows the command line output:

```
cd "/Users/rajatsingh/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Users/rajatsingh/" tempCodeRunnerFile
rajatsingh@Rajats-MacBook-Air ~ % cd "/Users/rajatsingh/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Users/rajatsingh/" tempCodeRunnerFile
Updated Linked List : 10 -> 20 -> 25 -> 30 -> NULL
rajatsingh@Rajats-MacBook-Air ~ %
```

On the right side of the screen, there is a "Build with agent" panel with the following text:

Build with agent
AI responses may be included.
Generate instructions to onboard codebase.