

# ACTIVITY

NAMA : Ajay Alfredo Almani  
NPM : 50420093  
KELAS : 2IA16  
TANGGAL : Sabtu, 30 Oktober 2021  
MATERI : Double Linked List  
PERTEMUAN : ke - 3  
MATA PRAKTIKUM : Struktur Data



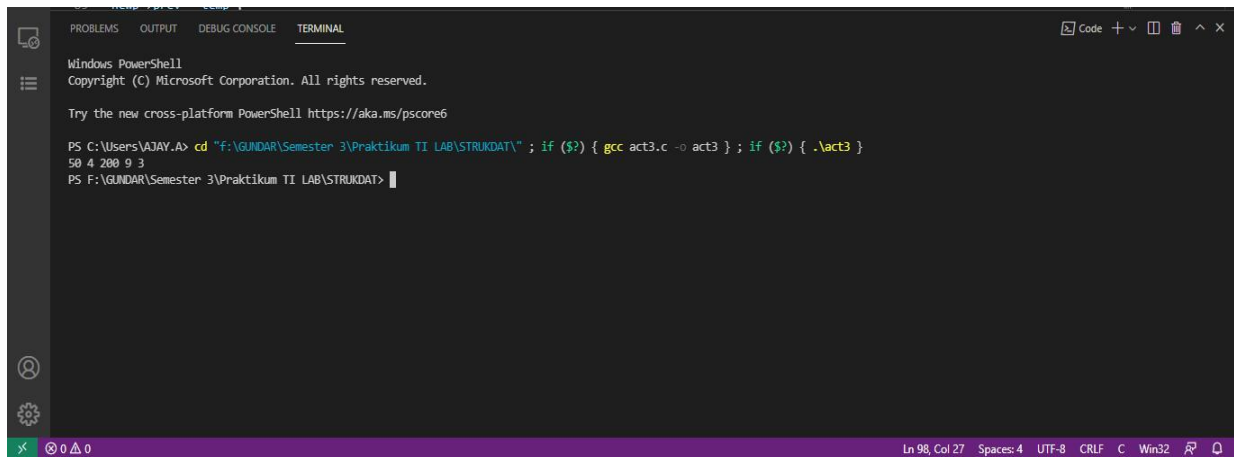
## LISTING PROGRAM

```
File Edit Selection View Go Run Terminal Help act3.c - Visual Studio Code
C perl2.c C m5-lat1.c C m5-lat2.c C m5-lat3.c C la2.c C act3.c x
F:\GUNDAR > Semester 3 > Praktikum TI LAB > STRUKDAT > C act3.c > main()
1  #include <stdio.h>
2  #include <stdlib.h>
3
4  struct node {
5      struct node *prev ;
6      int data ;
7      struct node *next ;
8  } ;
9
10 struct node *addtoempty(struct node *head, int data) {
11     struct node *temp = malloc(sizeof(struct node)) ;
12     temp->prev = NULL ;
13     temp->data = data ;
14     temp->next = NULL ;
15     head = temp ;
16     return head ;
17 }
18
19 struct node *addtobeg(struct node *head, int data) {
20     struct node *temp = malloc(sizeof(struct node)) ;
21     temp->prev = NULL ;
22     temp->data = data ;
23     temp->next = head ;
24     head->prev = temp ;
25     head = temp ;
26     return head ;
27 }
28
29
30 struct node *addatend(struct node *head, int data) {
31     struct node *temp, *tp ;
32     temp = malloc(sizeof(struct node)) ;
33     temp->prev = NULL ;
34     temp->data = data ;
35     temp->next = NULL ;
36     tp = head ;
37     while(tp->next!=NULL)
38         tp = tp->next ;
39     tp->next = temp ;
40     temp->prev = tp ;
41     return head ;
42 }
43
44 struct node *addafterpos(struct node *head, int data, int position) {
45     struct node *newp = NULL ;
46     struct node *temp = head ;
47     struct node *temp2 = NULL ;
48     newp = addToempty (newp, data) ;
49
50     while(position != 1){
51         temp = temp->next ;
52         position-- ;
53     }
54
55     if (temp->next == NULL) {
56         temp->next = newp ;
57         newp->prev = temp ;
58     }else{
59         temp2 = temp->next ;
60         temp->next = newp ;
61         temp2->prev = newp ;
62         newp->next = temp2 ;
63         newp->prev = temp ;
64     }
65     return head ;
66 }
67
68 struct node *addbeforepos(struct node *head, int data, int position) {
69     struct node *newp = NULL ;
70     struct node *temp = head ;
71     struct node *temp2 = NULL ;
72     newp = addToempty (newp, data) ;
73     int pos = position ;
74     while(pos > 2){
75         temp = temp->next ;
76         pos-- ;
77     }
78     if(position == 1){
79         head = addtobeg(head, data) ;
80     }else{
81         temp2 = temp->next ;
82         temp->next = newp ;
83         temp2->prev = newp ;
84         newp->next = temp2 ;
85         newp->prev = temp ;
86     }
87     return head ;
88 }
89
90 int main() {
91     struct node *head = NULL ;
92     struct node *ptr ;
93     int position = 3 ;
94     head = addToempty (head, 4) ;
95     head = addtobeg(head, 50) ;
96 }
```

```
94 head = addtoempty (head, 4) ;
95 head = addtobeg(head, 50) ;
96 head = addatend(head, 3) ;
97 head = addbeforepos (head, 200, position) ;
98 head = addafterpos(head, 9, position) ;
99
100 ptr = head ;
101
102 while(ptr !=NULL) {
103 printf("%d ", ptr->ddata) ;
104 ptr = ptr->next ;
105 }
106 return 0 ;
107 }
```

Ln 98, Col 27 Spaces: 4 UTF-8 CRLF C Win32

## OUTPUT PROGRAM



```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\AJAY.A> cd "F:\GUNDAR\Semester 3\Praktikum TI LAB\STRUKDAT\" ; if ($?) { gcc act3.c -o act3 } ; if ($?) { .\act3 }
50 4 200 9 3
PS F:\GUNDAR\Semester 3\Praktikum TI LAB\STRUKDAT>
```

Ln 98, Col 27 Spaces: 4 UTF-8 CRLF C Win32