

TP MODUL 4

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Kelas : IF-47-02

Kode Asprak : YDA

list.h

```
main.cpp x list.h x list.cpp x
1  #include <iostream>
2  #define first(L) L.first
3  #define next(P) P->next
4  #define info(P) P->info
5
6  using namespace std;
7
8  typedef int infotype;
9  typedef struct elmlist *address;
10
11  struct elmlist {
12      infotype info;
13      address next;
14  };
15  struct List {
16      address first;
17  };
18
19  void createList(List &L);
20  address allocate(infotype x);
21  void insertFirst(List &L, address P);
22  void printInfo(List L);
23
```

list.cpp

```
main.cpp x list.h x list.cpp x
1  #include <iostream>
2  #include "list.h"
3  using namespace std;
4
5  void createList(List &L) {
6      first(L) = NULL;
7  }
8
9  address allocate(infotype x) {
10     address p = new elmlist;
11     info(p) = x;
12     next(p) = NULL;
13     return p;
14 }
15
16 void insertFirst(List &L, address P) {
17     next(P) = first(L);
18     first(L) = P;
19 }
20
21 void printInfo(List L) {
22     address p = first(L);
23     while (p != NULL) {
24         cout << info(p) << ", ";
25         p = next(p);
26     }
27     cout << endl;
28 }
29
```

main.cpp

```
main.cpp x list.h x list.cpp x
1  #include <iostream>
2  #include "list.h"
3
4  using namespace std;
5
6  int main() {
7      List L;
8      createList(L);
9
10     int n;
11     cout << "Masukkan angka pertama: ";
12     cin >> n;
13
14     address p;
15     p = allocate(n);
16     insertFirst(L, p);
17     printInfo(L);
18
19     cout << "Masukkan angka kedua: ";
20     cin >> n;
21
22     p = allocate(n);
23     insertFirst(L, p);
24     printInfo(L);
25
26     cout << "Masukkan angka ketiga: ";
27     cin >> n;
28
29     p = allocate(n);
30     insertFirst(L, p);
31     printInfo(L);
32
33
34     return 0;
35 }
36
```

print

```
"C:\Users\LENOVO\Desktop\S" X + v
Masukkan angka pertama: 9
9,
Masukkan angka kedua: 3
3, 9,
Masukkan angka ketiga: 2
2, 3, 9,

Process returned 0 (0x0)   execution time : 3.761 s
Press any key to continue.
```

NOMOR 7 SESI HAVE FUN

```
main.cpp X list.h X list.cpp X
1  #include <iostream>
2  #define first(L) L.first
3  #define next(P) P->next
4  #define info(P) P->info
5
6  using namespace std;
7
8  typedef int infotype;
9  typedef struct elmlist *address;
10
11 struct elmlist {
12     infotype info;
13     address next;
14 };
15 struct List {
16     address first;
17 };
18
19 void createList(List &L);
20 address allocate(infotype x);
21 void insertFirst(List &L, address P);
22 void printInfo(List L);
23 void insertLast(List &L, address P);
24 void insertAfter(List &L, address prec, address P);
25 void deleteLast(List &L, address &P);
26 void deleteAfter(List &L, address prec, address P);
27
```

```
main.cpp x list.h x list.cpp x
27     cout << endl;
28 }
29
30 void insertLast(List &L, address P) {
31     address Q;
32
33     if (first(L) == NULL) {
34         next(P) = first(L);
35         first(L) = P;
36     } else {
37         Q = first(L);
38         while (next(Q) != NULL) {
39             Q = next(Q);
40         }
41         next(Q) = P;
42     }
43 }
44
45 void insertAfter(List &L, address prec, address P) {
46     if (next(prec) == NULL) {
47         next(prec) = P;
48     } else {
49         next(P) = next(prec);
50         next(prec) = P;
51     }
52 }
53
54 void deleteLast(List &L, address &P) {
55     address Q;
56
57     if (next(first(L)) == NULL) {
58         P = first(L);
59         first(L) = NULL;
60     } else if (first(L) == NULL) {
61         cout << "List kosong" << endl;
62     } else {
63         Q = first(L);
64         while (next(next(Q)) != NULL) {
65             Q = next(Q);
66         }
67         P = next(Q);
68         next(Q) = NULL;
69     }
70 }
71
72 void deleteAfter(List &L, address prec, address P) {
73     if (first(L) == NULL) {
74         cout << "List kosong" << endl;
75     } else {
76         P = next(prec);
77         next(prec) = next(P);
78         next(P) = NULL;
79     }
80 }
81
```

```
main.cpp x list.h x list.cpp x
1  #include <iostream>
2  #include "list.h"
3
4  using namespace std;
5
6  int main() {
7      List L;
8      createList(L);
9      int n;
10     address p;
11
12     /*
13     cout << "Masukkan angka pertama: ";
14     cin >> n;
15
16     p = allocate(n);
17     insertFirst(L, p);
18     printInfo(L);
19
20     cout << "Masukkan angka kedua: ";
21     cin >> n;
22
23     p = allocate(n);
24     insertFirst(L, p);
25     printInfo(L);
26
27     cout << "Masukkan angka ketiga: ";
28     cin >> n;
29
30     p = allocate(n);
31     insertFirst(L, p);
32     printInfo(L); */
33
34     int i;
35     for (i = 1; i <= 12; i++){
36         cout << "Digit " << i << " : ";
37         cin >> n;
38         p = allocate(n);
39         insertLast(L, p);
40     }
41     printInfo(L);
42
43
44
45
46     return 0;
47 }
48
```



"C:\Users\LENOVO\Desktop\S" X



Digit 1 : 1

Digit 2 : 0

Digit 3 : 3

Digit 4 : 0

Digit 5 : 1

Digit 6 : 2

Digit 7 : 3

Digit 8 : 0

Digit 9 : 0

Digit 10 : 2

Digit 11 : 3

Digit 12 : 9

Isi list: 103012300239

Process returned 0 (0x0) execution time : 9.332 s

Press any key to continue.

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