TP MODUL 4

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list.h

main.cpp | list.h | list.cpp

```cpp
#include <iostream>
#define first(L) L.first
#define next(P) P->next
#define info(P) P->info

using namespace std;

typedef int infotype;
typedef struct elmlist *address;

struct elmlist {
    infotype info;
    address next;
};
struct List {
    address first;
};

void createList(List &L);
address allocate(infotype x);
void insertFirst(List &L, address P);
void printInfo(List L);

```

list.cpp

main.cpp | list.h | list.cpp

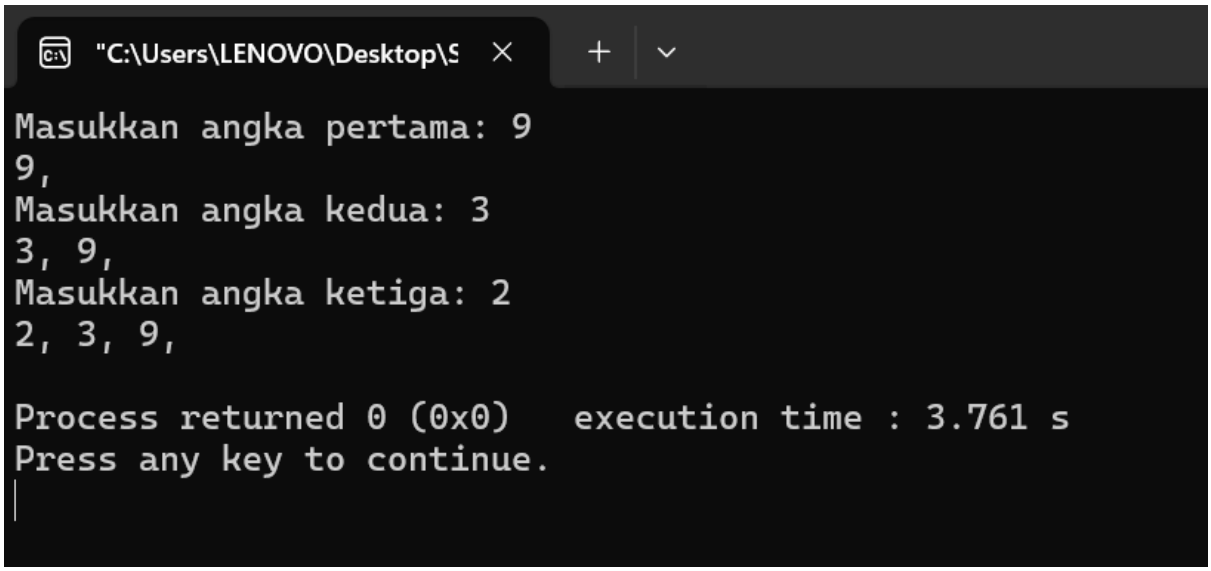
```cpp
#include <iostream>
#include "list.h"
using namespace std;

void createList(List &L){
    first(L) = NULL;
}

address allocate(infotype x){
    address p = new elmlist;
    info(p) = x;
    next(p) = NULL;
    return p;
}

void insertFirst(List &L, address P){
    next(P) = first(L);
    first(L) = P;
}

void printInfo(List L){
    address p = first(L);
    while (p != NULL){
        cout << info(p) << ", ";
        p = next(p);
    }
    cout << endl;
}
```

main.cpp

main.cpp | list.h | list.cpp

```cpp
#include <iostream>
#include "list.h"

using namespace std;

int main(){
    List L;
    createList(L);

    int n;
    cout << "Masukkan angka pertama: ";
    cin >> n;

    address p;
    p = allocate(n);
    insertFirst(L, p);
    printInfo(L);

    cout << "Masukkan angka kedua: ";
    cin >> n;

    p = allocate(n);
    insertFirst(L, p);
    printInfo(L);

    cout << "Masukkan angka ketiga: ";
    cin >> n;

    p = allocate(n);
    insertFirst(L, p);
    printInfo(L);


    return 0;
}
```

print



NOMOR 7 SESI HAVE FUN

main.cpp | list.h | list.cpp

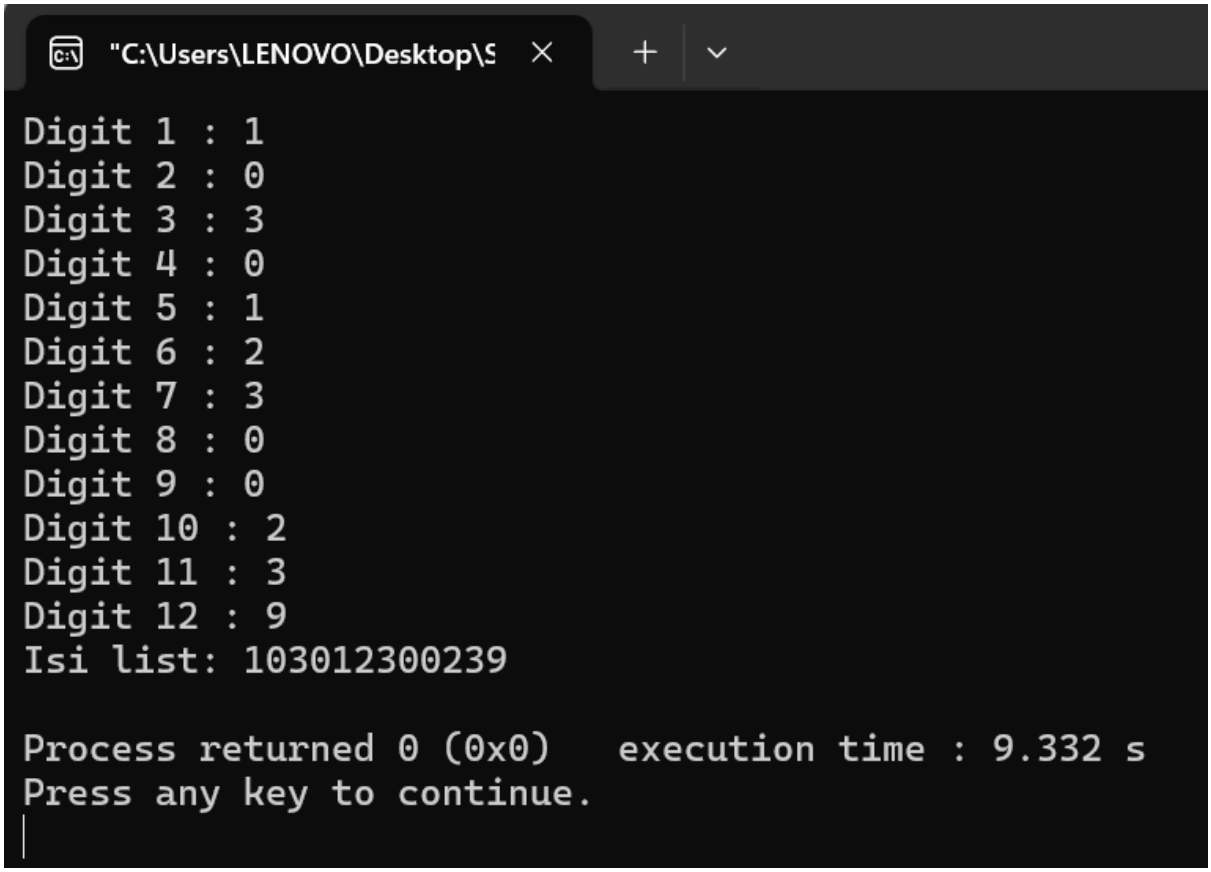
```
#include <iostream>
#define first(L) L.first
#define next(P) P->next
#define info(P) P->info

using namespace std;

typedef int infotype;
typedef struct elmlist *address;

struct elmlist {
    infotype info;
    address next;
};
struct List {
    address first;
};

void createList(List &L);
address allocate(infotype x);
void insertFirst(List &L, address P);
void printInfo(List L);
void insertLast(List &L, address P);
void insertAfter(List &L, address prec, address P);
void deleteLast(List &L, address &P);
void deleteAfter(List &L, address prec, address P);
```

main.cpp | list.h | list.cpp

```
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 | list.h | list.cpp

```cpp
#include <iostream>
#include "list.h"

using namespace std;

int main(){
    List L;
    createList(L);
    int n;
    address p;

    /*
    cout << "Masukkan angka pertama: ";
    cin >> n;

    p = allocate(n);
    insertFirst(L, p);
    printInfo(L);

    cout << "Masukkan angka kedua: ";
    cin >> n;

    p = allocate(n);
    insertFirst(L, p);
    printInfo(L);

    cout << "Masukkan angka ketiga: ";
    cin >> n;

    p = allocate(n);
    insertFirst(L, p);
    printInfo(L);*/

    int i;
    for (i = 1; i <= 12; i++){
        cout << "Digit " << i << " : ";
        cin >> n;
        p = allocate(n);
        insertLast(L, p);
    }
    printInfo(L);



    return 0;
}
```


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