```
1. Menambah N data baru
2. Menampilkan semua data
3. Menampilkan data penjualan ke-4
0. Exit

Pilihan Menu : 1
Jumlah data yang akan ditambahkan :1
Masukan data yang akan ditambahkan :
Id Faktur : 124243
Nama Barang : Pensil
Jumlah Barang : 3
Total harga : 3000


======MENU=======
1. Menambah N data baru
2. Menampilkan semua data
3. Menampilkan data penjualan ke-4
0. Exit

Pilihan Menu : 2
Data :
ID Faktur : 124243
Jumlah Barang : 3
Nama Barang : Pensil
Harga Barang : 3000


======MENU=======
1. Menambah N data baru
2. Menampilkan semua data
3. Menampilkan data penjualan ke-4
0. Exit

Pilihan Menu : 3
Data pembelian ke-4 :data tidak ditemukan

======MENU=======
1. Menambah N data baru
2. Menampilkan semua data
3. Menampilkan data penjualan ke-4
0. Exit

Pilihan Menu :
```

main.cpp atk.cpp atk.h

```cpp
1   #include "atk.h"
2
3
4   int main()
5   {
6       List D;
7       int pilihan = 0, K, x;
8       adr P;
9       infotype data;
10
11      CreateList_1301213072(D);
12      pilihan = selectMenu_1301213072();
13
14
15      while(pilihan != 0){
16          switch(pilihan){
17          case 1:
18              cout << "Jumlah data yang akan ditambahkan : ";
19              cin >> x;
20              for (int i = 1; i <= x; i++){
21                  cout << "Masukan data yang akan ditambahkan : " << endl;
22                  cout << "Id Faktur : ";
23                  cin >> data.data_faktur;
24                  cout << "Nama Barang : ";
25                  cin >> data.nama;
26                  cout << "Jumlah Barang : ";
27                  cin >> data.jumlah;
28                  cout << "Total harga : ";
29                  cin >> data.harga;
30                  cout << endl;
31                  P = newElement_1301213072(data);
32                  insertFirst_1301213072(D, P);
33              }
34              break;
35          case 2:
36              cout << "Data :" << endl;
37              show_1301213072(D);
```

C:\Users\linta\OneDrive\Documents_COLLEGE__S3_\[STD]\TP\dataatk\main.cpp   C/C++   Windows (CR+LF) WINDOWS-1252 Line 9, Col 17, Pos 100   Insert   Read/Write default

main.cpp atk.cpp atk.h

```cpp
14
15      while(pilihan != 0){
16          switch(pilihan){
17          case 1:
18              cout << "Jumlah data yang akan ditambahkan : ";
19              cin >> x;
20              for (int i = 1; i <= x; i++){
21                  cout << "Masukan data yang akan ditambahkan : " << endl;
22                  cout << "Id Faktur : ";
23                  cin >> data.data_faktur;
24                  cout << "Nama Barang : ";
25                  cin >> data.nama;
26                  cout << "Jumlah Barang : ";
27                  cin >> data.jumlah;
28                  cout << "Total harga : ";
29                  cin >> data.harga;
30                  cout << endl;
31                  P = newElement_1301213072(data);
32                  insertFirst_1301213072(D, P);
33              }
34              break;
35          case 2:
36              cout << "Data :" << endl;
37              show_1301213072(D);
38              cout << endl;
39              break;
40          case 3:
41              cout << "Data pembelian ke-4 :";
42              tampil_data_1301213072(D);
43              break;
44          }
45          pilihan = selectMenu_1301213072();
46      }
47      cout << "done " << endl;
48      return 0;
49  }
50
```

C:\Users\linta\OneDrive\Documents_COLLEGE__S3_\[STD]\TP\dataatk\main.cpp   C/C++   Windows (CR+LF) WINDOWS-1252 Line 9, Col 17, Pos 100   Insert   Read/Write default

```cpp
#include "atk.h"

void CreateList_1301213072(List &D){
    first(D) = NULL;
    last(D) = NULL;
}

infotype newdata_1301213072(int data_faktur, int jumlah, string nama, int harga){
    infotype data;

    data.data_faktur = data_faktur;
    data.jumlah = jumlah;
    data.nama = nama;
    data.harga = harga;

    return data;
}

adr newElement_1301213072(infotype x){
    adr P = new element;
    info(P) = x;
    next(P) = NULL;
    prev(P) = NULL;
    return P;
}

void insertFirst_1301213072(List &D, adr P){
    if (first(D) == NULL && last(D) == NULL){
        first(D) = P;
        last(D) = P;
    }else {
        next(P) = first(D);
        prev(first(D)) = P;
        first(D) = P;
    }
}

void show_1301213072(List D){
```

```cpp
}

void show_1301213072(List D){
    if (first(D) != NULL && last(D) != NULL){
        adr P = first(D);
        while (P != NULL){
            cout << "ID Faktur : " << (info(P).data_faktur) << endl;
            cout << "Jumlah Barang : "<< (info(P).jumlah) << endl;
            cout << "Nama Barang : " << (info(P).nama) << endl;
            cout << "Harga Barang : " << (info(P).harga) << endl;
            P = next(P);
        }
        cout << endl;
    }else {
        cout << "List Kosong" << endl;
    }
}

void tampil_data_1301213072(List D){
    int i = 0;
    adr P = first(D);

    if (first(D) == NULL && last(D) == NULL){
        cout << "Tidak ada data";
    } else{
        while (P != NULL ){
            if (i == 4){
                cout << "ID Faktur : " << (info(P).data_faktur) << endl;
                cout << "Jumlah Barang : " << (info(P).jumlah) << endl;
                cout << "Nama Barang : " << (info(P).nama) << endl;
                cout << "Harga Barang : " << (info(P).harga) << endl;
            }else{
                cout << "data tidak ditemukan" << endl;
            }
            i++;
            P = next(P);
        }
    }
}
```

```cpp
}

void tampil_data_1301213072(List D){
    int i = 0;
    adr P = first(D);

    if (first(D) == NULL && last(D) == NULL){
        cout << "Tidak ada data";
    } else{
        while (P != NULL ){
            if (i == 4){
                cout << "ID Faktur : " << (info(P).data_faktur) << endl;
                cout << "Jumlah Barang : " << (info(P).jumlah) << endl;
                cout << "Nama Barang : " << (info(P).nama) << endl;
                cout << "Harga Barang : " << (info(P).harga) << endl;
            }else{
                cout << "data tidak ditemukan" << endl;
            }
            i++;
            P = next(P);
        }
    }
}

int selectMenu_1301213072(){
    cout << endl << "======MENU======" << endl;
    cout << "1. Menambah N data baru" << endl;
    cout << "2. Menampilkan semua data" << endl;
    cout << "3. Menampilkan data penjualan ke-4" << endl;
    cout << "0. Exit" << endl << endl;
    cout << "Pilihan Menu : ";

    int input = 0;
    cin >> input;

    return input;
}
```

```
1   #ifndef ATK_H_INCLUDED
2   #define ATK_H_INCLUDED
3   #include <iostream>
4
5   using namespace std;
6
7   #define info(P) (P)->info
8   #define next(P) (P)->next
9   #define prev(P) (P)->prev
10  #define first(D) ((D).first)
11  #define last(D) ((D).last)
12
13
14  typedef struct atk infotype;
15  typedef struct element *adr;
16
17  struct atk{
18      int data_faktur;
19      int jumlah;
20      string nama;
21      int harga;
22  };
23
24  struct element{
25      infotype info;
26      adr next;
27      adr prev;
28  };
29
30  struct List{
31      adr first;
32      adr last;
33  };
34
35  void CreateList_1301213072(List &D);
36  infotype newdata_1301213072(int data_faktur, int jumlah, string nama, int harga);
37  adr newElement_1301213072(infotype atk);
38  void insertFirst_1301213072(List &D, adr P);
39  void show_1301213072(List D);
```

```
8   #define next(P) (P)->next
9   #define prev(P) (P)->prev
10  #define first(D) ((D).first)
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12
13
14  typedef struct atk infotype;
15  typedef struct element *adr;
16
17  struct atk{
18      int data_faktur;
19      int jumlah;
20      string nama;
21      int harga;
22  };
23
24  struct element{
25      infotype info;
26      adr next;
27      adr prev;
28  };
29
30  struct List{
31      adr first;
32      adr last;
33  };
34
35  void CreateList_1301213072(List &D);
36  infotype newdata_1301213072(int data_faktur, int jumlah, string nama, int harga);
37  adr newElement_1301213072(infotype atk);
38  void insertFirst_1301213072(List &D, adr P);
39  void show_1301213072(List D);
40  void tampil_data_1301213072(List D);
41  int selectMenu_1301213072();
42
43
44  #endif // ATK_H_INCLUDED
45
```