

**Nama : Muhammad Luqmaan**

**NIM : 123230070**

**Plug : F**

```
#include <iostream>
using namespace std;
```

```
int pilihan;
char ulangi;
```

```
struct Node
{
    int info;
    string nama;
    int harga;
    Node *next;
};
```

```
string nama;
int harga;
```

```
Node *head, *tail;
int jmlnode = 0;
```

```
void buatList();
void sisipNode(string nama, int harga);
void hapusNode(string nama);
void printListMaju();
void printListMundur();
```

```
void menu1();
void menu2();
void menu3();
```

```

int main()
{
    buatList();
    do
    {
        system("cls");
        puts("=====");
=====);
        puts("||                      Menu
        ||");
        puts("=====");
=====);
        puts("||                      1. Input
Kosan                      ||");
        puts("||                      2. Lihat Data
Kosan                      ||");
        puts("||                      3. Hapus Data
Kosan                      ||");
        puts("||                      4.
Exit                      ||");
        puts("=====");
=====);
        cout << "Pilihan : ";
        cin >> pilihan;
        cin.ignore();

        switch (pilihan)
        {
        case 1:
            menu1();
            break;
        case 2:
            menu2();
            break;

```

```

    case 3:
        menu3();
        break;
    case 4:
        exit(0);
        break;
    default:
        cout << "Pilih menu yang sesuai" << endl;
        break;
}
cout << "\nKembali ke menu? (y/n) : ";
cin >> ulangi;
} while (ulangi == 'Y' || ulangi == 'y');
}

```

```

void buatList()
{
    head = new Node();
    head->info = 0;
    head->next = head;
}

```

```

bool listKosong()
{
    if (head->next == head)
    {
        return true;
    }
    else
    {
        return false;
    }
}

```

```
}
```

```
void sisipNode(string nama, int harga)
```

```
{
```

```
    Node *nodeBaru = new Node();
```

```
    nodeBaru->nama = nama;
```

```
    nodeBaru->harga = harga;
```

```
    nodeBaru->next = NULL;
```

```
    if (listKosong())
```

```
    {
```

```
        nodeBaru->next = head;
```

```
        head->next = nodeBaru;
```

```
        jmlnode++;
```

```
        head->info = jmlnode;
```

```
    }
```

```
    else
```

```
    {
```

```
        Node *bantu = head;
```

```
        while (bantu->next->harga < harga && bantu->next != head)
```

```
        {
```

```
            bantu = bantu->next;
```

```
        }
```

```
        if (bantu->next != head)
```

```
        {
```

```
            nodeBaru->next = bantu->next;
```

```
            bantu->next = nodeBaru;
```

```
        }
```

```
    else
```

```
    {
```

```
        nodeBaru->next = head;
```

```

        bantu->next = nodeBaru;
    }
}
jmlnode++;
head->info = jmlnode;
}

```

```

void hapusNode(string nama)

```

```

{
    if (listKosong())
    {
        cout << "List masih kosong" << endl;
    }
    else
    {
        Node *bantu = head;
        while (bantu->next->nama != nama && bantu->next != head)
        {
            bantu = bantu->next;
        }

        if (bantu->next != head)
        {
            Node *hapusList = bantu->next;
            bantu->next = hapusList->next;
            free(hapusList);
            jmlnode--;
            head->info = jmlnode;
            cout << "Data " << nama << " berhasil dihapus" << endl;
        }
        else
        {

```

```

        cout << "Data " << nama << " tidak ditemukan" << endl;
    }
}
}

```

```

void printListMaju()

```

```

{
    if (listKosong())
    {
        cout << "List masih kosong" << endl;
        return;
    }
    Node *bantu = head->next;
    while (bantu != head)
    {
        cout << "Nama Kos : " << bantu->nama << endl;
        cout << "Harga Kos : " << bantu->harga << endl;
        bantu = bantu->next;
    }
}

```

```

void printListMundur()

```

```

{
    if (listKosong())
    {
        cout << "List masih kosong" << endl;
        return;
    }

```

```

    Node *depan = head;

```

```

    Node *bantu = head->next;

```

```

    Node *nextNode;

```

```

Node *tail = head->next;

while (bantu != head)
{
    nextNode = bantu->next;
    bantu->next = depan;
    depan = bantu;
    bantu = nextNode;
}
head->next = depan;
tail->next = head;

// Node *bantu = head->next;
// while (bantu != head)
// {
//     cout << "Nama Kos : " << bantu->nama << endl;
//     cout << "Harga Kos : " << bantu->harga << endl;
//     bantu = bantu->next;
// }
}

void menu1()
{
    system("cls");

    puts("=====");
    puts("||                               Input Data
Kosan                               ||");
    puts("=====");

    cout << "Nama Kosan : ";
    getline(cin, nama);
    cout << "Harga/Bulan : ";

```

```

    cin >> harga;
    sisipNode(nama, harga);
}

void menu2()
{
    system("cls");
    cout << "1. Tampilkan list maju" << endl;
    cout << "2. Tampilkan list mundur" << endl;
    cout << "Pilih : ";
    cin >> pilihan;

    switch (pilihan)
    {
        case 1:
            system("cls");
            puts("=====
=====");
            puts("||                      Daftar Data
Kosan                      ||");
            puts("=====
=====");
            printListMaju();
            break;
        case 2:
            system("cls");
            puts("=====
=====");
            puts("||                      Daftar Data
Kosan                      ||");
            puts("=====
=====");
            printListMundur();
            printListMaju();
            printListMundur();

```



```

        break;
default:
    break;
}
}

void menu3()
{
    system("cls");

    puts("=====
=====");

    puts("||                      Hapus Data
Kosan                      ||");

    puts("=====
=====");

    cout << "Masukkan nama kos yang ingin digusur : ";
    getline(cin, nama);
    hapusNode(nama);
}

```

```

=====
||                      Menu                      ||
=====
||                      1. Input Kosan              ||
||                      2. Lihat Data Kosan          ||
||                      3. Hapus Data Kosan          ||
||                      4. Exit                      ||
=====
Pilihan : 1

```

```
=====
||                               Input Data Kosan                               ||
=====
Nama Kosan : Kos Mawar
Harga/Bulan : 50000

Kembali ke menu? (y/n) : █
```

```
=====
||                               Daftar Data Kosan Ascending                               ||
=====
Nama Kos : Kos Putri
Harga Kos : 100
Nama Kos : Kos Putra
Harga Kos : 500
Nama Kos : Kos Melati
Harga Kos : 1000
Nama Kos : Kos Mawar
Harga Kos : 50000

Kembali ke menu? (y/n) : █
```

```
=====
||                               Daftar Data Kosan Descending                               ||
=====
Nama Kos : Kos Mawar
Harga Kos : 50000
Nama Kos : Kos Melati
Harga Kos : 1000
Nama Kos : Kos Putra
Harga Kos : 500
Nama Kos : Kos Putri
Harga Kos : 100

Kembali ke menu? (y/n) : █
```

```
=====
||                               Hapus Data Kosan                               ||
=====
Masukkan nama kos yang ingin digusur : Kos Melati
Data Kos Melati berhasil dihapus

Kembali ke menu? (y/n) : █
```

```
=====
||                               Hapus Data Kosan                               ||
=====
Masukkan nama kos yang ingin digusur : awokawok
Data awokawok tidak ditemukan

Kembali ke menu? (y/n) : █
```