

queue.h

```
#include <iostream>

using namespace std;

struct infotype {
    string artis, judul;
};

typedef struct element *adr;

struct element {
    infotype info;
    adr next;
};

struct playlistLagu {
    adr head, tail;
};

void createPlaylist(playlistLagu &Q);
void createElement(infotype laguBaru, adr &pLagu);
void enqueue(playlistLagu &Q, adr pLagu);
void dequeue(playlistLagu &Q, adr &pLagu);
void showSemuaLagu(playlistLagu Q);
```

queue.cpp

```
#include "queue.h"
```

```

void createPlaylist(playlistLagu &Q) {
    Q.head = NULL;
    Q.tail = NULL;
}

void createElement(infotype laguBaru, adr &pLagu) {
    pLagu = new element;
    pLagu->info = laguBaru;
    pLagu->next = NULL;
}

void enqueue(playlistLagu &Q, adr pLagu) {
    if (!Q.head && !Q.tail) {
        Q.head = pLagu;
        Q.tail = pLagu;
    } else {
        Q.tail->next = pLagu;
        Q.tail = pLagu;
    }
}

void dequeue(playlistLagu &Q, adr &pLagu) {
    pLagu = NULL;
    if (Q.head && Q.tail) {
        pLagu = Q.head;

        if (Q.head != Q.tail) {
            Q.head = Q.head->next;
        } else {
            Q.head = NULL;
        }
    }
}

```

```

        Q.tail = NULL;
    }
}

void showSemuaLagu(playlistLagu Q) {
    if (!Q.head && !Q.tail) {
        cout << "Playlist lagu anda kosong." << endl;
    } else {
        cout << "My Playlist:" << endl;
        adr cur = Q.head;
        while (cur != Q.tail) {
            cout << "> " << cur->info.artis
                << " - " << cur->info.judul << endl;
            cur = cur->next;
        }
        cout << "> " << cur->info.artis
            << " - " << cur->info.judul << endl;
    }
}

```

main.cpp

```

#include "queue.h"

// my helper
infotype createLagu(string artis, string judul) {
    return infotype {artis, judul};
}

int main() {

```

```

playlistLagu Q;
adr pLagu;

createPlaylist(Q);

int nLagu = 5 + 2;
for (int i = 0; i < nLagu; i++) {
    createElement(createLagu("Artis-" + to_string(i + 1),
                             "Lagu-" + to_string(i + 1)),
                  pLagu);

    enqueue(Q, pLagu);
}

showSemuaLagu(Q);

cout << endl;

for (int i = 0; i < nLagu; i++) {
    dequeue(Q, pLagu);
    cout << pLagu->info.judul << " selesai diputar." << endl
         << endl;

    showSemuaLagu(Q); cout << endl;

}
}

```

Output

```

My Playlist:
> Artis-1 - Lagu-1
> Artis-2 - Lagu-2
> Artis-3 - Lagu-3
> Artis-4 - Lagu-4

```

```
> Artis-5 - Lagu-5
> Artis-6 - Lagu-6
> Artis-7 - Lagu-7
```

Lagu-1 selesai diputar.

My Playlist:

```
> Artis-2 - Lagu-2
> Artis-3 - Lagu-3
> Artis-4 - Lagu-4
> Artis-5 - Lagu-5
> Artis-6 - Lagu-6
> Artis-7 - Lagu-7
```

Lagu-2 selesai diputar.

My Playlist:

```
> Artis-3 - Lagu-3
> Artis-4 - Lagu-4
> Artis-5 - Lagu-5
> Artis-6 - Lagu-6
> Artis-7 - Lagu-7
```

Lagu-3 selesai diputar.

My Playlist:

```
> Artis-4 - Lagu-4
> Artis-5 - Lagu-5
> Artis-6 - Lagu-6
> Artis-7 - Lagu-7
```

Lagu-4 selesai diputar.

My Playlist:

```
> Artis-5 - Lagu-5
> Artis-6 - Lagu-6
> Artis-7 - Lagu-7
```

Lagu-5 selesai diputar.

My Playlist:

```
> Artis-6 - Lagu-6
> Artis-7 - Lagu-7
```

Lagu-6 selesai diputar.

My Playlist:

> Artis-7 - Lagu-7

Lagu-7 selesai diputar.

Playlist lagu anda kosong.