

Preprocessing With Include Guard

header1.h

```
#ifndef HEADER1_H
#define HEADER1_H
A1;
B1;
C1;
#endif
```

header2.h

```
#ifndef HEADER2_H
#define HEADER2_H

#include "header1.h"

A2;
B2;
C2;
#endif
```

client.cpp

```
#include "header1.h"
#include "header2.h"
A3;
B3;
C3;
```

Step 1.

```
#ifndef HEADER1_H
#define HEADER1_H
A1;
B1;
C1;
#endif

#ifndef HEADER2_H
#define HEADER2_H

#include "header1.h"

A2;
B2;
C2;
#endif

A3;
B3;
C3;
```

Step 2.

```
HEADER1_H defined

A1;
B1;
C1;

HEADER2_H defined

#include "header1.h"

A2;
B2;
C2;

A3;
B3;
C3;
```

Step 3.

```
HEADER1_H defined

A1;
B1;
C1;

HEADER2_H defined

#ifndef HEADER1_H
#define HEADER1_H
A1;
B1;
C1;
#endif

A2;
B2;
C2;

A3;
B3;
C3;
```

Step 4.

```
HEADER1_H defined

A1;
B1;
C1;

HEADER2_H defined

#ifndef HEADER1_H
#define HEADER1_H
A1;
B1;
C1;
#endif

A2;
B2;
C2;

A3;
B3;
C3;
```

Because
HEADER1_H has
been defined already